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ANGLER

JANUARY 1956

PENNSYLVANIA FISH COMMISSION



Last chance for recreation—

America's forest land

(Editor's Note: The following article has been lifted from the November 15, 1955 issue of the "Conservation News" of the National Wildlife Federation of Washington, D. C., and presents in a rather factual and authoritative manner, problems involved in the future outdoors of our nation.)

RECOGNITION of public interest and equity in the recreational potential provided by public and private forest lands was in evidence at the recent meeting of the Society of American Foresters at Portland, Oregon. Two papers were delivered, one by a member of the U. S. Forest Service and one by a representative of private industry that evinced enlightened understanding and sympathy with the problem.

In fact, at each successive meeting of the Society, an increasing interest is evidenced by attendance at the section meetings where wildlife and recreation problems are discussed.

The pure-quill saw log forester who manages public lands is gradually being forced to give more than lip service to the impact of millions of hunters, fishermen, campers, wilderness advocates and just ordinary sightseers that are constantly on the prod. Private industry is viewing this hair-shirt problem with mixed feelings.

These outdoor disciples substantially influence public opinion, and are not averse to storming legislative halls to air their crusades. Public agencies cannot long exist without public support, and private business is becoming painfully aware that it cannot be entirely ignored.

In the far northwest several lumber and pulp companies are making an honest and sincere effort through the public relations media to keep their lands open for public recreation and at the same time minimize the wear and tear that this use imposes. In the Great Lakes region the forest industrial holdings are generally open to hunting and fishing on a sort of truce basis. In some other regions where tree farming has taken on economic significance, trespass signs appear to be on the increase.

Industrial foresters are mortally afraid of fire, and rightfully so, but some states claim the hunter and fisherman as their most careful

clients. Such a reputation must be earned the hard way.

Many recreationists seeing vast wooded areas as a place to indulge their outdoor hobbies are not definitive in the matter of ownership. To them it is free territory or at least quasi-public in character. But too often they leave their badges of good citizenship at home and almost universally become litterbugs; others lose an even greater sense of responsibility, and a small minority resort to destructive vandalism.

Ignorance of economic values in the womb of the silent land with its forests, grazing lands, and watersheds, the fundamental strength of our democracy, is almost frightening. Yet, an increasing number feel the spell of its majestic power and would move heaven and hell to preserve it.

The outdoor public must learn to respect property, and both economical and esthetic values before it can assume the role of the evangelist. Forest industry and some members of the public agencies must cease looking down their noses at the rank and file of God's patient poor who desire some elbow room.

The pot calling the kettle black before legislative committees will not advance conservation; but it will furnish an out for legislators if that is what they are looking for. Recreationists and forest industry would do well to sit down around the conference table and discuss the areas of agreement and disagreement before opposing each other on the matter of legislation.

All in all, there are growing signs of improvement, but much statesmanship must be forthcoming before the two groups, both avowing their dedication to conservation precepts, will have solved all their differences.

—ERNEST F. SWIFT,

*Executive Director,
National Wildlife Federation.*

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George W. Forrest, Editor

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Man and **F**ish diseases

By ARTHUR D. BRADFORD

Pathologist, Pennsylvania Fish Commission

WHEN it comes to high sounding diseases of man and higher animals fish will not take a back seat, for such ailments usually have a counterpart in the finny world. Of course things like "falling hair" and "house-maid's knee" naturally cannot be directly applied to fish but a look at the list of many of the major diseases will show that Mr. Trout, Mr. Bass and Aunt Minnie's goldfish also suffer even though they are unable to complain.

Take virus diseases—medical research during the last decade has shown that many of the ailments of man and animals can be attributed to viruses. It is almost a popular fad to be able to say "The doctor told me I have a virus infection." Fish have virus diseases too although not quite so much is known as yet about them.

With bacterial diseases, however, it is a different matter for it has been known for many years that fish suffer from such infections. Trout in particular have received careful study and have bacteria-caused boils, ulcers, kidney disease, blood poisoning, bloodstream infection and gill trouble. Other kinds of fish have various types of bacterial infections also.

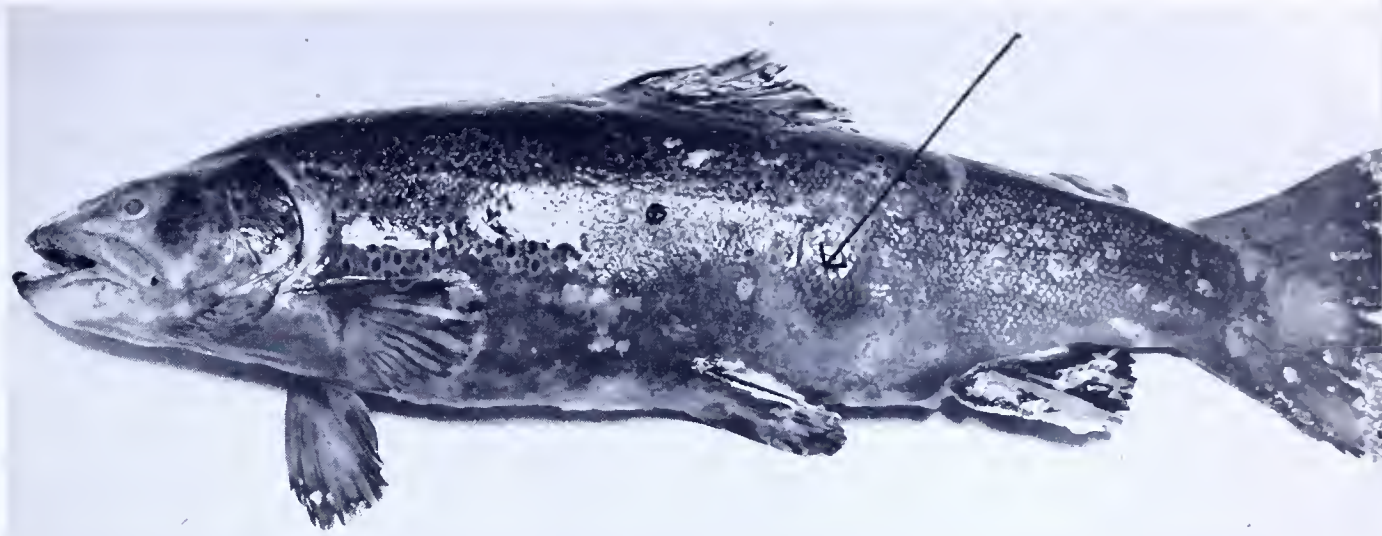
While fish do not have athlete's foot or ringworm they do have fungus-caused diseases. Many fishermen have undoubtedly seen cotton-like fungus on minnows in bait pails or boxes.

During warm weather fungus disease will often quite quickly kill all fish in a bait pail.

"Larger fleas have lesser fleas upon their backs to bite them—" goes an often heard poem. Here again fish are definitely in the act for they have a variety of external and internal parasites. Externally fish may have lice-like copepods, small one-celled protozoan parasites and flatworms. Internally they can have a whole host of parasitic infestations including black grubs just under the skin, tape worms in the intestinal tract, worms in the vital organs, the muscles, the eyes, or even the blood stream.

When it comes to tumors fish have them too! In man and animals tumors are often classified as being either malignant or benign. The malignant types are better known as cancer and fish suffer from both kinds. Fish have been used quite extensively in cancer research. It was found by one investigator that certain crosses in tropical fish produced off-spring which develop malignant tumors.

One hears a lot, these days, about low calorie foods and slim waist lines. Here again fish are not immune for they have their dietary troubles also. Hatchery trout may become much overweight and even develop a dropsical condition. Hatchery fish in particular often suffer



2. **BROWN TROUT** in the late stages of bacteria-caused "furunculosis". A boil-like furuncle (see arrow) which is often characteristic of the disease occurs below the dorsal fin. Fungus which shows up as irregular light-colored patches is also present as a secondary infection.



1. **THIS CREEK CHUB** has a heavy infestation of "black grubs." Each tiny speck contains an encysted worm parasite. The worm itself is not black but the fish deposits a black pigmented layer around each one. Fishermen often see this parasite in bait minnows.



3. **TUMOR** occurring on a rainbow trout. A study of the tumor tissue would determine whether the growth is cancerous.

vitamin deficiency diseases and can develop anemia. Blood counts and other tests can be taken to diagnose these ills. Corrective measures are taken by changing their rations or adding vitamins and supplements to their regular diets.

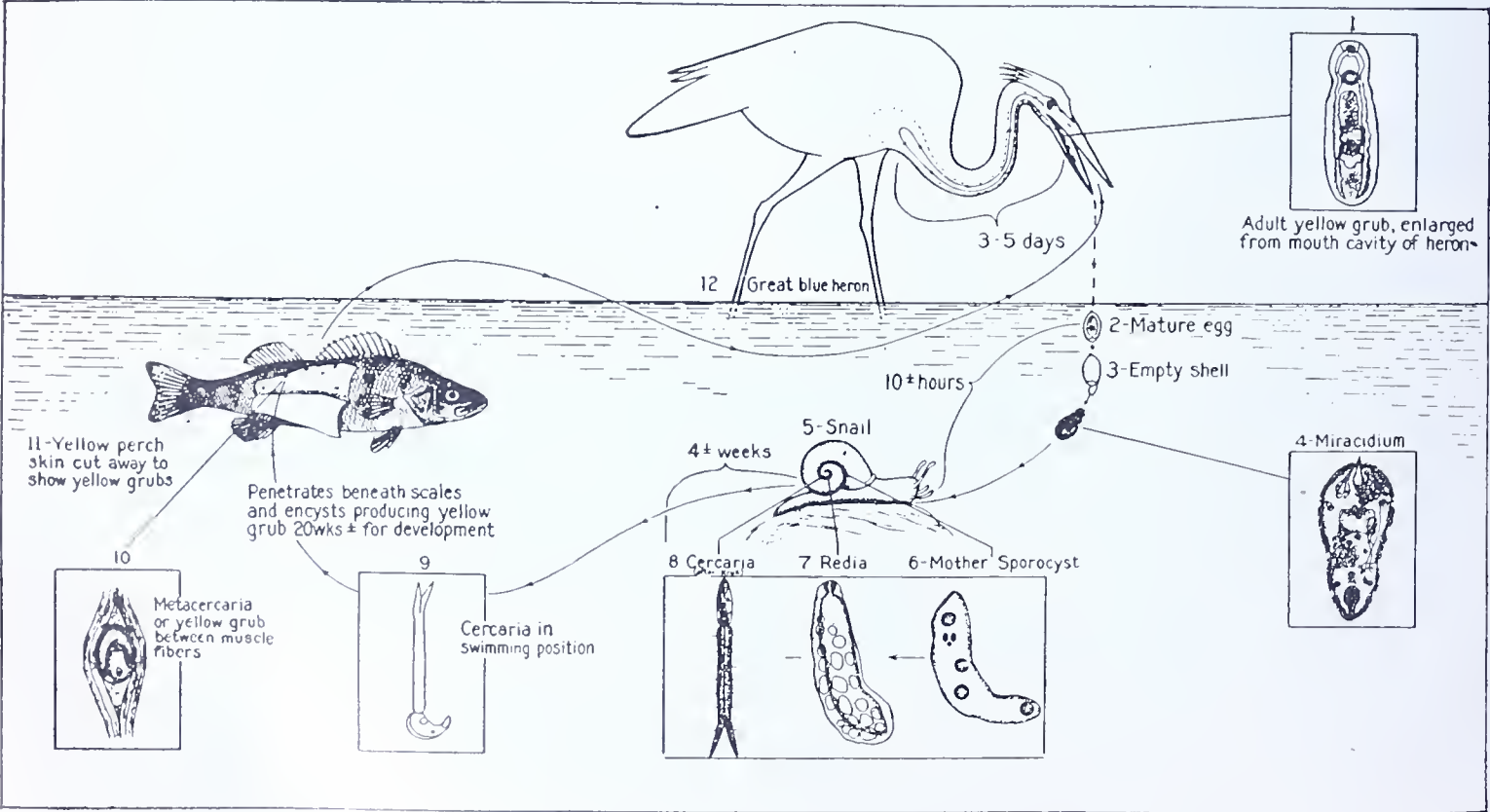
Gall trouble with jaundice—it, too, can be found in the fish world. A few years ago several chain pickerel were brought to the fisheries laboratory at Bellefonte. The anglers who caught them thought perhaps that they might be a new species of pickerel for the fish had a definite blue appearance. However, careful internal examination revealed that the gall bladders of the fish were greatly enlarged and there was an over-production of bluish bile or bile pigment. This gave the fish the blue appearance and could be compared to jaundice in humans.

Deep sea divers and under river tunnel workers often suffer from a disease called “bends” caused by the excessive air pressure necessary to work in great depths. When the workers return too rapidly to the ordinary

atmosphere nitrogen gas bubbles appear in the blood stream and may cause temporary paralysis or even death. Fish placed in certain limestone springs or in water under high hydrant pressure will also develop “bends.” The malady in fish is known as “gas bubble disease” and one of the most common symptoms is protruding eyes. Gas collects back of the eye socket and pushes the eyeball outward giving a popeye appearance. Gas bubbles may also be seen in the blood vessels of the fins. Hatcheries having large limestone springs as their water source often must aerate the water thoroughly before passing over fish. Aeration removes the excess gases and prevents loss of fish due to gas bubble disease.

Blindness in fishes is not uncommon and may have several causes including injury, dietary deficiency, worm parasites and bacterial infection. Blind fish usually turn black or dark colored. Fish that are able to see have an automatic color regulating device which changes according to the environment. That is, fish occurring in light bottomed pools are usually light

4. LIFE CYCLE diagram of the yellow grub *Clinostomum marginatum*. This parasite depends upon three different hosts. (After Hunter and Hunter through the courtesy of the New York State Conservation Department).



in color and those occurring in dark bottom areas are usually dark in color. When fish become blind this mechanism is upset and nearly all take on a black appearance which usually stands out from the other fish in the pool.

With regard to miscellaneous afflictions such as crippling and deformities, fish have their share. Hunchbacked trout and other spinal deformities are not uncommon in hatcheries. When a man loses a leg it is a very serious matter. A fish, on the other hand, can lose one or more fins without seriously affecting its locomotion.

Even in the field of modern medicine fish are certainly not ignored. The pathologist or fish doctor prescribes sulfa drugs and antibiotics for certain infections in hatchery fish. Chemical dips are prescribed for external parasites and fungus diseases—about like a person who soaks his feet in a chemical solution for fungus-caused athlete's foot. Laxatives and worm medicines are prescribed for intestinal worms and protozoan parasites.

The question might arise at this point as to just what fish diseases the average angler might encounter in the field and what effect they would have on the eating qualities of fish. As mentioned previously fungus disease is very common during warm months and may be seen in the baitfish pail or on fish in wild waters. Sores and ulcers on fish also can be common during warm weather. Bullheads often have them during spawning season. Trout and other species of fish may also have sores from time to time.

Probably the most common affliction that fishermen will encounter is wormy fish, especially in bass and panfish. The form most often reported in Pennsylvania waters is the "yellow grub" a small yellowish worm parasite which is found in the flesh or beneath the skin of fishes and often causes wart-like bumps. Other worm parasites that may be commonly encountered in fish include the "laval red round-worm" a small thread-like form found in the

flesh, small white grubs found in the liver and soft tissues, tapeworms in the intestinal tract, leeches attached to the fins or other external body surfaces, and small black grubs found just under the skin. The black grubs appear as tiny black spots and are a common infestation of minnows. The worms themselves are not black but the fish deposit a black pigmented layer around the worm.

The life histories of worm parasites of fishes are often complex and may appear almost fantastic. The life cycle of the yellow grub is dependent upon fish-eating birds and snails for completion. When a fish-eating bird, such as a heron or bittern eats a wormy fish, the young worms grow to maturity and become attached to the throat or mouth of the bird. Each worm lays countless numbers of eggs which are deposited in the water when the bird feeds. Here the eggs hatch and the minute worms penetrate some species of snail. In this host the parasite undergoes further changes and emerges from the snail in a form that can penetrate fish. If a suitable fish host is encountered such as a perch, bass or sunfish the parasite enters, encysts and causes the wormy condition.

Other worm parasites of fish may have life histories equally or less complicated than that of the yellow grub. Wormy fish are encountered in wild lakes and streams over a wide area including Canada and the condition is not in any way connected with pollution.

In some cases fish seem to be able to carry a large load of parasites without apparent harm. In other instances it has been shown that parasitic infestations may cause poor growth and even sterility.

With the exception of the broad tape worm, found in the Great Lakes region, diseases of fishes are not often transferrable to man. Probably most diseased fish could be eaten raw without danger. Thorough cooking however, would make them absolutely safe. The moral of the story might be not to let a few spots or parasites mar a day's fishing.





Trout streams worth \$119,000 per mile

YES . . . Fantastic as it may seem the trout streams on the Allegheny National Forest are "worth" (economically) about \$119,000 per mile; This interesting figure was developed from careful studies made by officials of Allegheny National Forest and based on a report made in 1955 by the then supervisor of the forest lands, Richard Costley. In early 1955, officials of the Pennsylvania Fish Commission met with Mr. Costley, and John Appleget, Fishery Biologist, U. S. Fish and Wildlife Service, Boston, Massachusetts to work out a cooperative program for the future management of trout in the streams of Allegheny National Forest.

It was felt the work could be accomplished more efficiently if there was a better understanding between the three agencies, namely: the Allegheny National Forest, the U. S. Fish and Wildlife Service and the Pennsylvania Fish Commission.

Some follow-up work was done, and more is contemplated. It is hoped that in time all agencies of both State and Federal government will be consulting frequently, and working in close collaboration on the variety of multiple-use problems and possibilities found on this large tract of publicly owned land with its considerable number of good waters. It is near and accessible to a great part of eastern America's population.

In a statement which was part of the Forest Wildlife Report for 1955, Mr. Costley wrote as follows:

"During the year an attempt was made to place an economic evaluation on the wildlife resources of the forest. Based upon the careful study of the numbers of individuals taking advantage of this resource and a conservative estimate of their annual expenditures in the pursuit of this activity (of but \$50.00 per individual per year) the following interesting figures were developed: with only a 4% capitalization of the resources responsible for this \$50.00 expenditure on the part of fishermen, it is evident that the trout streams on the Allegheny National Forest are "worth" (economically) about \$119,000 per mile. By the same approach, for hunting use the area within the forest is worth to local communities about \$360 an acre."

There is a total of 4,236 miles of streams open to public fishing in Pennsylvania. 387 miles are in Allegheny National Forest which represents an economic worth of more than \$46,000,000.00 in the forest lands alone. If the valuation of \$119,000.00 per mile were to be applied to the total mileage of Pennsylvania streams open to public fishing the value would total more than \$500,000,000.00. And that's a lot of money whether in dollars, francs, pounds, rubles or sheckels.

In a single generation we have seen a most radical change in the American "staff of life." Bread (butter, too) has become more abundant, more available than "fit-to-drink" water. If our people continue to squander the natural water resources of this nation via pollution, erosion and forest fires, . . . to our prayer: "give us this day our daily bread," we shall be forced to add more fervently, "give us this day our daily water."

—GWF

By JOSEPH KRUTCH

CConservation is not enough . . .



MORALISTS OFTEN blame races and nations because they have never learned how to live and let live. But it is not only members of his own kind that man seems to want to push off the earth. When he moves in, nearly everything else that lives suffers—sometimes because he wants the space it occupies and the food it eats, but often because he sees a creature not of his kind or his race, his first impulse is “kill it”.

Albert Schweitzer remarks that we owe kindness even to an insect, when we can afford to show it, just because we ought to do something to make up for all the cruelties, necessary as well as unnecessary, which we have inflicted upon almost the whole of animate creation.

Probable not one man in ten is capable of

understanding such moral and aesthetic considerations. But perhaps twice as many are beginning to realize that the reckless devastation of the earth has practical consequences. They are beginning to hear at least about “conservation”, even though they are not even dimly aware of any connection between it and a large morality and are very unlikely to suppose that it does or could mean anything more than looking after their own behavior.

Hardly two generations ago, Americans first woke up to the fact that their land was not inexhaustible. Scientists have studied the problem, public works have been undertaken, laws passed. Yet everybody knows that the using-up still goes on. And there is nowhere that it goes on more nakedly with a fuller realization of what is happening, than in the desert regions where the margin to be used up is narrower. Soon dust bowls will be where was once a sparse but healthy desert; and man, having unrooted, slaughtered or driven away everything which lived healthily and normally there, will himself either abandon the country or die.

To the question of why men will do or are permitted to do such things, there are many replies. Some speak of population pressures, while others more bluntly discuss unconquerable human greed. Some despair; some hope that more education and more public works will, in the long run, prove effective. But is there, perhaps something different, which is indispensable? Is there some missing link in the chain of education, law and public works? Is there something lacking without which none of these is sufficient?

After a lifetime spent in conservation of one kind or another, during which he saw his country slip backward two steps for every one it took forward, Aldo Leopold came up with an unusual answer which many people would dismiss as "sentimental" and be surprised to hear from a "practical" scientific man. Yet the conclusion reached can be simply stated. Something is lacking; and because of that lack, education, law and public works fail to accomplish what they hope to accomplish. Without it, the highminded impulse to educate, legislate and to manage becomes as sounding brass or a tinkling cymbal. And the thing that is missing is love, some feeling for, as well as some understanding of, the inclusive community of rocks and soils, plants and animals, of which we are a part.

To live healthily and successfully on the land, we must also live with it. We must be part not only of the human community, but of the whole community; we must acknowledge some sort of oneness not only with our neighbors, our countrymen and our civilization, but also with the natural as well as the manmade community. Ours is not only "one world" in the sense usually implied; it is also "one earth." And without some acknowledgment of that fact, men can no more live successfully than they can if they refuse to admit the political and economic interdependency of the various sections of the civilized world. It is not a sentimental but a grimly literal fact that unless we do share this globe with creatures other than ourselves, we shall not be able to live on it for long.

You may, if you like, think of this as a moral law. But you cannot escape the fact that it has its factual, scientific aspect which is every day making it clearer that those interdependencies, no matter how remote, are crucial even for us.

Before even the most obvious aspects of the balance of nature had been recognized, a greedy, self-centered mankind naively divided plants into the useful and useless. In the same way it divided animals into those which were either "domestic" or "game", and those which were called "vermin" and ought to be destroyed. Even to this day the idea remains the same for most people. They may know, or may have been told, that what looks like the useless

is often essential. They may have heard that when the mountain lion is killed off, the deer multiply; that when the deer multiply, the new growth is eaten away; and that when the hills are denuded, a farm or section of grazing land is washed away and made incapable of supporting man or any other of the large animals. They may even have heard how the wonderful new insecticides proved so effective that fish and birds died of starvation; that when you almost completely kill off a destructive pest, you run the risk of starving out everything which preys upon it and thus run the risk that the pest itself will stage an overwhelming comeback because its predators are no more. Yet knowing this and much more, their dream is still the dream that an earth for the use of man alone can be created if only we learn more and scheme more effectively.

Ultimately man hopes he can beat the game. But the more the ecologist learns the less likely it seems, that man can in the long run do anything of the sort. For every creature there is a paradox at the heart of the necessary "struggle for existence": neither man nor any other animal can afford to triumph in that struggle too completely. In nature as elsewhere, "to the victor belongs the spoils"—but for a time only. When there are no more spoils to be consumed, the victor dies.

WHAT is commonly called "conservation" will not work in the long run, because it is really not conservation at all, but rather a variation of the old idea of a world for man's use only. But how can man be persuaded to cherish any other ideal unless he can learn to take some interest in the beauty and variety of the world for its own sake, unless he can see some "use" in things not useful? Without some realization that "this curious world" is at least beautiful as well as useful, conservation is doomed. We must live for something besides making a living. If we do not permit the earth to produce beauty and joy, it will in the end not produce food either. And that brings us around to another of Aldo Leopold's ideas:

"Conservation still proceeds at a snail's pace; . . . the usual answer is 'more education' . . .

But is it certain that only the volume of education needs stepping up? Is something lacking in content as well? . . . It is inconceivable to me that an ethical relation to land can exist without love, respect and admiration for land, and a high regard for its value. By value, I of course mean something far broader than mere economic value: I mean value in the philosophical sense."

Here in the West, as in the country at large, a war more or less under the guise of a "conflict of interest" rages between the practical conservationist and the defenders of national parks, between cattlemen and lumbermen on one hand and "sentimentalists" on the other. The pressure to allow the hunter, the rancher or the wood cutter to invade the public domain is constant, and the plea is always that we should use what is assumed to be useless unless it is adding material welfare. But unless somebody teaches love, there can be no ultimate protection to what is lusted after.

From the standpoint of nature as a whole, man is both a threat to every other living thing and, therefore, a threat to himself also. If he were not so extravagantly successful, it would be better for nearly everything except man, and therefore possibly better in the longest run for him also. He has become the tyrant of the earth, the waster of its resources, the creator of the most prodigious imbalance in the natural order which has ever existed. From a purely homocentric point of view, this may seem entirely proper. Does not our dream of the future include a final emancipation from any dependence upon a natural balance and the substitution for it of some balance established by ourselves and in our exclusive interest? Most would claim that we have every reason in experience to believe that this final triumph is possible.

Yet the fact remains that to all things there is a limit, that "progress" cannot continue indefinitely in one straight line. The more completely we bring nature under control, the more complicated our methods must become; the more disastrous the chain reaction set up by any failure of wisdom or watchfulness or technique. We are required to know more and more, and we are always threatened by the impossibility of achieving adequate knowledge,

much less adequate wisdom and virtue. Until we learned to support a population far larger than we would have believed possible a century ago, there was no danger of general starvation. Until we increased the wealth of nations by linking them one with another, we were not exposed to the dangers of a world-wide economic collapse. Until we learned how to "control" the atom, there was no danger that atomic phenomena would actually get out of control, and hence it is not clear whether we are running the machines or they are running us. Thus we now have three tigers by the tail—the economic, the physical and the biological; and three tigers are three times as dangerous as one. We cannot let any of them go. But it is not certain that we can hang on to all of them indefinitely.

PERHAPS nature cannot really be controlled after all. Might it not be that man's success as an organism is genuinely a success so long, but only so long, as man is prepared to share the earth with the others? If by any chance that criterion is valid, then either one of two things is likely to happen. Either outraged nature will violently assert herself and some catastrophe will demonstrate the hollowness of man's supposed success; or man himself will learn in time to set a reasonable limit to his ambitions and accept his position as that of the most highly evolved of living creatures but not one entitled to assume that no others have a right to live unless they contribute directly to his material welfare.

Since our age is not inclined to be interested in theological arguments, it is not likely to find in them sufficient reason for accepting gladly the continued existence on this earth of "useless" plants and animals occupying space which man might turn to his own immediate profit. He is more likely to make at least certain concessions, and it is entirely certain that he will not make them happily, will not find life pleasanter just because he makes them, unless he can learn to love and to delight in the variety of nature.

Pennsylvania canneries adopting irrigation for waste disposal

There is a trend toward the adoption of the irrigation method by the large canneries in this State to prevent stream pollution in compliance with requirements of the Clean Streams program. In using that method the canning wastes are screened to remove the bulky solids. The wastes are then discharged to lagoons or settling basins where much of the remaining suspended solid material is settled out. From those basins the effluent is pumped through a spraying system to large land areas, thereby eliminating any discharge to the streams.

This practice has been followed by a few of the larger canneries for a number of years. Among them is the Hanover Canning Co., of Hanover, which also provides lagoons to catch any run off from the lands which might occur in the heavy canning season. The complete success of the method is said to depend to some extent upon the type of soil and the size of the area which can be used for the purpose. In some cases the spraying is said to have a beneficial effect upon some forms of growth but as a rule the effluent is acid to a degree as to adversely effect growth of most vegetation.

Run Off Is Prevented

In some instances where the vegetation has been destroyed the land is furrowed to prevent run off of the sprayed material. Furrowing also breaks up the matted formation on the surface of the soil caused by accumulation of the solids which remain in the sprayed effluent.

Although there is provided an extensive waste treatment system using the aeration method of treatment at Chambersburg cannery of the H. J. Heinz Co., that concern last year installed a spraying system which it has re-

ported was used with success and will be used again this year. If it continues to be successful it will be used to the exclusion of the treatment works which will be held at a standby to be put into operation should an emergency occur.

According to the records of the Bureau of Sanitary Engineering of the Health Department which executes the Clean Streams program, there are now 88 canneries operating in this State and practically all of them provide for treatment of the wastes. Of that number nine of the larger canneries are now using the irrigation method and a number of other canning concerns are giving consideration to the use of that method.

Waste Held in Lagoons

Another means of treatment which has proved successful in abating stream pollution is the lagooning of the wastes over an extended period and then discharging the effluent to the stream, at the time of high water flow, in regulated amount. This is done under the supervision of the Bureau of Engineering which has samples of the effluent analyzed previous to the decanting operation and during the time that it is being released to determine the polluting strength.

The polluting strength of cannery wastes that have been held in lagoons over a long period of time is reduced as much as 50 percent by bacterial action and aeration caused by action of the winds.

During the holding period the liquid is treated with sodium nitrate to control odors. It is believed possible that this chemical contributes to the lessening of the polluting strength.

Some canneries use the trickling filter method of treatment which is used extensively in the treatment of sewage. In those cases the waste is discharged to lagoons for settling out of the major portion of the solids and from there is pumped to the filter where it is sprayed from revolving arms over a deep layer of stone that has been "seeded" with bacteria which act favorably on the polluting content of the waste. After additional settling the effluent is discharged to the streams.

Discharge to Sewers

A number of canneries in different sections of the state discharge the wastes to the municipi-

pal sewer system in which event the municipality is responsible for the treatment.

When lagoons are used it is necessary that the settled solids be cleaned out periodically. They are drayed to a dump. It is believed that the rainfall in the lagoons is about equal to the amount of evaporation which occurs during the period that wastes are held in the lagoons.

According to the records of the Department of Internal Affairs the value, including that added by manufacture, of the 1953 Pennsylvania pack of fruit, vegetables and mushrooms was \$191,088,300. Pennsylvania canneries employed 15,890 persons during that year who were paid \$23,683,400.

Empty bucket under a dry spigot

The National Wildlife Federation has warned state wildlife agencies and organized sportsmen they had better take an active interest in state water law revision or find themselves "holding an empty bucket under a dry spigot."

The states of Delaware, Florida, Georgia, Indiana, Iowa, Kansas, Maryland, Missouri, New York, Ohio, Oklahoma—and perhaps others—now have commissions created by their legislatures to study water-law revision and related problems.

One state, South Dakota, passed a new law this year that abandons "riparian doctrine" and substitutes the Western system of "appropriation for beneficial use."

In Arkansas the legislature created a special 11-member commission to study surface-water rights but made no funds available for the investigation. North Carolina lawmakers created a Board of Water Commissioners to make such a study and gave the new Board emergency powers to divert water. The general assembly

of South Carolina considered but failed to enact an "appropriative rights" law recommended by a Water Policy Committee created in 1953.

The trend toward revision has been prompted by two basic factors: (1) Growing water shortages and (2) increasing use for irrigation.

The danger to wildlife in the Eastern states lies in the attempt to impose Western doctrine without modification and without safeguards to meet Eastern conditions. The proposed South Carolina bill, which has been studied as a model in other states, gives scant consideration to wildlife and recreational interests. The key section puts the hunter and fisherman way down on the totem pole in these words:

Appropriations of surface waters of the State shall not constitute absolute ownership or absolute rights of use of such waters, but such waters shall remain subject to the principle of beneficial use. Where future appropriations or water for different purposes con-



flict they shall take precedence in the following order, namely: domestic, municipal, irrigation, industrial, recreational and water power uses.

The "riparian doctrine," followed in Midwestern and Eastern states, was inherited from English common law. It says in brief that a person owning land bordering on a stream has a right to take as much of the water as he needs for

domestic uses, including livestock water. Beyond that he must permit the flow to continue downstream undiminished and unpolluted.

In brief and general terms, the Western system is that the first person to lay claim to, or "appropriate," the water gets it so long as the use is continuous and considered beneficial under the law.

The "appropriative doctrine" was developed

in the arid West where water was always scarce and fought over from the earliest days of settlement. In general it has worked well but fish and game interests often have found themselves helpless under the law when irrigation users or hydroelectric interests wanted to take the last drop from a stream or drain a reservoir dry.

This deficiency occurs because in the early days no one realized the value of wildlife and the public recreation it affords. With few exceptions the laws of Western states fail to recognize wildlife management as a beneficial use of water. In the few exceptions where fish or wildlife is mentioned, it is relegated to the tail-end of the priority system.

Public interest in water resources, including wildlife and recreation, may have better basic protection in those states, such as Wisconsin, that have constitutional provisions founded on the famous "ordinance of 1787." This ordinance was part of the law which created the old Northwest Territory, from which several states subsequently were carved.

Wisconsin's constitution follows the historic ordinance in declaring that "the river Mississippi and the navigable waters leading into the Mississippi and St. Lawrence, and the carrying places between the same, shall be common highways and forever free, as well to the inhabitants of the state as to the citizens of the United States . . ." In essence, this provision guarantees the public right to the use of public waters.

Admitting that in many states riparian law is "vague," revision probably is inevitable and

necessary in many states where competitive pressures mount for dwindling supplies. The soundness of spelling out a system of rigid priorities in the statutes, giving certain kinds of water use preference over other uses is faulty policy and bound to lead to new troubles according to some wildlife experts.

It must be recognized that in one locality and situation, irrigation may be the most important use from the standpoint of the general economy and public welfare. But in another instance, municipal, or industrial uses, may well predominate.

In still other streams or watersheds—much like the Current River of Missouri and the Allagash of Maine as example—the recreational and esthetic values may far outweigh all others from the standpoint of the public welfare.

Recalled is the recent case of the Namekagon River in Wisconsin, which was held, first by the Federal Power Commission and then by the courts, to be more valuable for fishing and recreation than for a proposed power dam.

The matter of water law revision is a problem that needs the immediate and serious study of conservation agencies and organizations in all the states.

The general public has very much at stake—beyond the special interests that are jousting for priorities. It isn't likely that . . . commercial groups will voluntarily concede the recreational and esthetic values or take up the cudgels for fish and wildlife.

CLEARANCE

If, when you travel Life's highway
You find there is a block,
And think you can't remove it so
You detour around the rock,
Then those who follow you will take
That same detour some day,
So how much better it would be
If you had cleared the way.

—THELMA IRELAND

Gizzard Shad Blackout Erie



▲Thousands of mooneyes jam water intake at power company station.

▼Stench is awful. Here conveyors to trucks haul 'em out. A cold in the head helps workers.



**DYING FISH JAM WATERFRONT
—NOT SO PRETTY,
—SMELL TERRIBLE!**

SWARMING tons of gizzard shad (mooneyes) clogged water intake tubes at the Front Street power station, Pennsylvania Electric Company at Erie recently causing a power failure and blackout over most of the city. Power company employees for several weeks have been battling the small silver fish, over 50 tons of fish shoveled away into trucks, hauled away for disposal.

Little use has ever been found for the fish which, for the past five years, have made annual runs from Lake Erie into the bay and slips seeking warmer water. Hardest hit by the power failure was Erie Dispatch television station WICU knocked off the air by a fish jam.

The Pennsylvania *ANGLER* reported the "Big Stink" of 1953 in the May issue that year.

▼ Sea of Gizzard Shad—Pfewu!



e fishing



SETTING a trap or tip-up (they're called various names in many northern sections of the country), the ice fisherman only has to keep an eye on the flag. Meanwhile he tries to keep warm.



ICE FISHING FRATERNITY boasts steadily increasing membership in Pennsylvania. Conversation seldom lags, hot meals are served, ice anglers say once you try it you'll be back for more.

MOST EVERY sector of Pennsylvania has its ice fishing enthusiasts, specialized methods, particular species of quarry and peculiar equipment for enjoying the rugged sport.

And the ice angler is not bound by a stereotyped plan of procedure or a conventional pattern for his equipment. The species of fish he takes include perch, pickerel, crappies, catfish and the delicious bluegill.

One must mingle with the ice-fishing fraternity to fully grasp the feeling that sets it apart. You sense a certain unwavering fervor but no radicalism. It is as though the ardent fan had every last detail of proper procedure set in his mind but actually attached little importance to those very details.

There isn't much of a tendency to feud over boxes or rigs: each person seems to assume that the other fellow has what suits him; if he didn't, he'd probably change it.

They are earnest about their ice fishing but never frantic or fanatic. They do it for relaxation, so they relax mentally and physically.

When they are enjoying a hot streak, they smile contentedly as they wave so-long to their companions and leave with a good catch.

When a fish gets off, or a bite is missed, or an invisible leader snaps, they smile contentedly at the good-natured ribbing of the nearby fishermen who have all had the same amusing experiences.

When a half-day is spent in idle staring at a shoe-button bobber floating in a six-inch dot of water amid acres of ice with no indication of any marine life around, they smile contentedly and say, "Well, we're fishin'."

Mingling with the crowd of ice fishermen as they call their pleasant banter at one another across the sheet of ice (the fishing shanty hasn't as yet gained much popularity in Pennsylvania), you feel that the whole thing is just a light joke with them. Yet, how do we account for their eternal persistence in chopping holes, wetting icy lines and freezing! They must enjoy it!

Trout Death Toll Heavy at Allentown, Nursery Gets Sulfa Treatment

Alarmed at the heavy death toll of 2 to 3 year old brown trout at Queen City Sportsmen's Cooperative Nursery at Allentown recently, members of the Trout Rearing committee called on Fish Commission experts for an immediate investigation and diagnosis.

The ailing fish, according to an investigation by Arthur D. Bradford, Pathologist, Pennsylvania Fish Commission, revealed characteristic external symptoms of boil-like blebs usually associated with "furunculosis." Many of the fish were heavily infected with fungus, often present with the disease. Culture tests taken were positive, confirming the diagnosis.

A sulfa (sulfamerazine) drug was prescribed and the caretaker instructed how to weigh and mix the drug with the food at the hatchery. Thorough disinfection of the pond containing the sick fish was also recommended.

It is believed the outbreak of the disease may have been caused by overcrowding, this situation now relieved by moving fish into a larger pool.

The Commission plans to keep in close contact with hatchery officials on the future course of the disease. Members of the Trout Rearing Committee of the Queen City Nursery are: Morton V. V. White and L. Knoblauch.

Nash Award to Charlie Stoddard

Charlie Stoddard, State College, Pa., director of the Pennsylvania Federation of Sportsmen's Clubs junior conservation camp and the Federation's delegate to the National Wildlife Federation, recently received the coveted Nash Conservation award. Stoddard was one of ten Americans to receive the annual award.

Pennsylvania Angler 25 Years Old in 1956

The PENNSYLVANIA ANGLER will celebrate its Silver Anniversary this year. The magazine, in mimeographed form, first saw the light of publication in December 1931. It is hoped that a special Silver Anniversary issue will appear in the near future. Writes Alfred W. Miller, Editor, Angler's Bulletin, New York Angler's Club, on a reminder of our 25th year of publication: "'Sink yourself and serve the reader,' my old boss, publisher of the Wall Street Journal, used to tell his reporters. On that foundation of service to the reader he created a great organization, and if you will stop to consider, it is the same foundation on which every other solidly successful publication also stands.

That, of course, includes the PENNSYLVANIA ANGLER, which long ago built a high reputation even outside the borders of Pennsylvania on its unique service to the reader. The nature of that service has changed with the passing of time and the changing of conditions, but the amount and value of that service have increased. Some of the how-to-catch-fish information has been replaced by stream improvement, conservation information; and (most interesting and serviceable of all, to me) there have been a number of articles dealing with local history, geological origins and things other than fish that make fishing so fascinating a pastime.

So to my mind the PENNSYLVANIA ANGLER is still serving the reader more and better than ever, and that is why, after more than ten years as a contributor, I still feel a special pride and satisfaction at seeing my work in it; I feel that I am in such good company. I only hope I may last long enough to see the PENNSYLVANIA ANGLER at the peak of success toward which it has already made such long strides"

—Sparse Grey Hackle.

In Pennsylvania

Warden Lech Honored at Pottsville

At a testimonial banquet arranged and conducted by the Schuylkill County Sportsmen's Association, Anthony (Tony) Lech of Schuylkill Haven, was presented with a plaque lauding him for his fearless and conscientious services as a Fish Warden for the past 24 years. In addition to the plaque, Tony was given a wallet containing a \$100 Savings Bond.

The banquet was conducted in the Necho Allen Hotel of the anthracite capital, and was largely attended by representatives of both the Pennsylvania Fish Commission and the Pennsylvania Game Commission. Many sportsmen and conservationists were in attendance and joined in conveying to Warden Lech expressions of appreciation for his services rendered. Ex-Judge Harold L. Paul of Port Carbon, formerly of the Schuylkill County bench, served as toastmaster, and paid Tony a glowing tribute when he said, "Withstanding pressure put on him by politicians of both parties to dismiss cases, he never yielded even in the face of threats to have him fired." The judge further continued, "He is a fearless warden who never carries a gun, and whose character and reputation have been above reproach during his 24 years with the Fish Commission."

W. W. Britton, Chief Enforcement Officer for the Pennsylvania Fish Commission, presented Tony with a gold tie clasp in the shape of a fish hook. Britton said, "Wardens in early days were looked upon as renegades and were paid little respect. Things are different now, thanks to men of the calibre of Tony Lech and the help of sportsmen's organizations."

It is gratifying indeed to learn of the esteem in which employees of the Fish Commission are held in their areas, and the PENNSYLVANIA ANGLER is proud to raise its hand also in a signal salute of tribute to a fine, hard hitting, loyal and ambitious warden.

Conservation Essay Contest Ends

All competing articles for the 1955-56 Conservation Essay contest as sponsored by the National Wildlife Federation and Penna. Federation of Sportsmen's Clubs were due in the hands of their respective county judges by Thursday, December 15th, according to Robert C. Yake, chairman of the Federation's Education committee. Cash prizes of \$500 are being awarded by the NWF, \$200 by the PFSC, and many additional sums have been set aside by the County Federation's themselves.

The essay subjects, as stated by the NWF, are listed as: (a) 'How Can Farmers Help Wildlife,' for the students of junior high school age or 7, 8, and 9th grades; and (b) 'How Renewable Are Our Wildlife Resources?' for the senior high division of grades 10, 11 and 12.

Essays in the junior high division are limited to not over 500 words while those in the senior high section can not exceed 1,000. The material must be legibly written (double-spaced if typewritten) on only one side of white paper, the latter of standard size—8½ x 11 inches.

County judges appointed by the local Federations, as announced by Yake, must have their essays judged and forward the winning material to the division judges or respective division secretaries by Thursday, January 5th. No essays, as emphasized by PFSC Education chairman, will be considered by the State judges unless they have been CLEARED through the division.

State judges begin work Jan. 15 to select Pennsylvania winners for national competition. Central and Southcentral division to forward to Raymond R. Rommelt, South Williamsport High School, South Williamsport; the Northwest, Southwest and Northcentral to Seth L. Meyers, 480 N. Oakland Ave., Sharon; and the Southeast, Northeast, and Southern to Robert C. Yake, 904 Pembroke Ave., East Lansdowne.

Oregon Game Commission Takes to Air Waves

The Oregon Game Commission is now in business broadcasting over a chain of 30 radio stations in Oregon. Weekly 15-minute public service programs bring more wildlife news to hunters, fishermen and other outdoorsmen. Based on the idea a well informed public is a cooperative public, the general theme of the program series highlights the activities of the Commission in the management of fish and game resources.

Portable tape records get "on-the-spot" coverage throughout the state. Most programs take the listener behind the scenes to show the why, when, and where of wildlife management.

Search for Lamprey Poison Nears End

Search for a poison which can kill larvae of sea lampreys without injuring desirable species of fish is drawing toward a successful conclusion, Secretary of the Interior Douglas McKay said today. The Secretary added that additional testing must be made before a definite statement of success can be made, however.

The poison, specific to lampreys and harmless to other fish, will be used in connection with electrical devices which have already been proved and have been installed at various points in the Great Lakes, in a double-barreled attack on the sea raider which has moved into the Great Lakes with such disastrous results to commercial fishing.

The electrical devices block the lamprey from ascending to spawning grounds in the tributaries of the lakes. The poison, if it lives up to expectations, will kill the five generations of lamprey larvae which live in the mud bottoms of the streams. Adult lampreys, attempting to reach spawning grounds will be killed by the electrical devices.

About 5,000 poisons have been tested in the

search for one which is specific for lampreys. Several poisons have been found which give excellent results in many tests in which lamprey larvae and fish have been treated under identical laboratory conditions. These selective poisons are undergoing extensive testing before field trials to make doubly sure that they will not be harmful to desirable fish, to game, or to man in concentrations at which they will kill lamprey larvae.

All United States streams tributary to Lake Superior known to have lamprey spawning areas have been blocked by the electrical devices. Canada is well along on its part of the program and will have the task completed in 1957. At present there are 72 electrical barriers operating on Lake Superior.

Lake Michigan fishing has already been disastrously hit by the sea lamprey. Recent test gill netting indicated that lake trout have practically been eliminated in that body of water since the influx of sea lamprey a few years ago.

During the search for a lamprey poison the Fish and Wildlife Service uncovered many promising leads for the development of other selective fish poisons which can be used in fish management. It is expected that additional work along this line will open up some entirely new approaches to fish population control.

Keeping Fire Out of the Woods

Sportsmen have been reminded by one of their leading spokesmen that they have a responsibility for keeping fire out of the woods. Executive Director Ernest F. Swift of the Nation Wildlife Federation, writing in the Federation's *Conservation News* for Dec. 1, said that although forest-fire control has been one of America's "shining conservation achievements," the job is still a long way from complete.

"The sportsmen-leadership in many states has been slow to realize that stopping fire in

Across the Nation

the woods is a greater civic responsibility on their part than promoting their favorite recreation," Swift said. Enlightened sportsmen, he pointed out, admit fire is damaging to wildlife habitat. Some—but too few—extend their perception to community prosperity based on watershed protection, forest industry and pay-rolls.

"Here is an opportunity for a team-work job where sportsmen's organizations can participate. In many communities timber is the backbone of business. It is the difference between ghost towns and prosperity, it helps fill dinner pails, sends children to school, pays off mortgages and, in conjunction, produces revenues from hunting, fishing, skiing, dude ranches and resorts."

The Federation leader suggested that organized sportsmen could help forest owners enact sound legislation to insure and perpetuate timber management, including fire protection, insect control, the severance tax philosophy of harvesting, and encouragement of the farm woodlot.

"Such assistance," he declared, "will bring about a closer tie of all conservation interests . . . It will take study, time, effort and no doubt some crusading, but it may ultimately be responsible for the disappearance of no-trespass signs in the woods."

"Jim" Stuber, Former Wildlife Employee Dies

James W. Stuber, 66, for more than 25 years an employee of the Division of Wildlife, died on November 21, in Veterans Hospital, Dayton, Ohio, after an extended illness.

"Jimmy," as he was known to a host of friends and associates, had been in failing health for several years and had been confined to the hospital since 1953.

Mr. Stuber started working for the Division

of Wildlife in 1929 and while spending some time in enforcement and public relations, saw most service with the game section.

During his life he had written for the *Dayton Journal-Herald* and *Dayton News* and had worked for the U. S. Fish and Wildlife Service, and had traveled extensively in the United States, Canada and Alaska. He also served as secretary of the Outdoor Writers of America.

You Wuz What You Wuz When You Wuz

This may sound confusing but it isn't to four young field men of the Texas Game and Fish Commission who stumbled on a moonshine still up in the hills. That is, they smelled it first, then slanted off in another direction for their wildlife observations. But one of the vigilantes soon called out of the brush and a bewhiskered man pointed a double-barreled shotgun at one of the biologists. But he dropped the gun and sneaked off after noticing there were four in the crew. One of the field men called to assure him they were not "revernoors."

About a week later, one of the biologists was approached by a man in a small town. "You wuz what you sed you wuz," he whispered to the wildlife agent, "So I've got a present for you."

The man reached into his car and pulled out a jug of white mule.

I Think You Sting!

Some inland fishermen who had never fished before in the ocean went down to the sea for the first time. First time they hit the jackpot. After a day of fishing they returned to the dock. The proprietor asked as usual . . . "Any luck?" 'Dern tootin,' we got a whole boatload of dandy flounders!" The "flounders" turned out to be stingrays. And, believe it or not, honest, not one of those landlubbers were stung even once!—Palacios *Beacon*

Winter brings a natural slowing of fishing in most places in Pennsylvania, but this doesn't mean inactivity by the field forces of the Fish Commission. Winter normally is a time of preparation for the heavier volume of work to be done in the spring and summer, when the outdoors appear more inviting to more people. Here are some of the things that have occupied the time and interest of fish wardens, field technologists, and others on the Commission staff.

Telling the Commission Story

A random check of monthly activity reports of ten fish wardens showed they attended and spoke at meetings of school groups, sportsmen's clubs, luncheon clubs and other organizations in October, or an average of approximately three each, and that the groups averaged larger than 50 persons each.

If this average holds up statewide, it seems that the wardens are attending about 150 meetings, and telling of Fish Commission operations to around 7,500 persons, monthly. Hmmm; if Pennsylvania has a population of 11,000,000 today, that means it would take the warden force about 1,466,666,666,666 months to cover the state and tell everybody the sort of things they talked about in October. Provided, of course, that everybody in Pennsylvania could be persuaded to attend meetings, on a schedule that would let the wardens get around to all of them.

* * *

Natural Hatcheries and Nurseries

In November something new was added in connection with the routine work of the field staff of technologists. If it pans out as a successful and practical operation, it could mean some big, wild and vigorous fish will be looking over the fishermen's bait and artificial lures come next open season.

A team of biologists and helpers went in to Clark's Valley reservoir, a Harrisburg water supply, November 9 and 10 to do some sampling and learn what was available in the way of fish life.

The city, through appropriate officials, agreed to this investigative activity. If appreciable results appear likely, comes open weather in the spring another team or two may go in with nets of one kind or another to take out desirable species and transplant them to open public waters in that general part of the state.

If this project is completed, it will be done in a manner that fully complies with all rules laid down by the city and the state Department of Health, so that the drinking water supply will remain pure. Also, it will be done in such a way and degree that, if wanted, it can be repeated in 1957 and succeeding years without damage to the foundation fish population of the reservoir, and without complicating the city's management of the water.

Naturally, the Fish Commission would prefer to have the licensed fishermen take the fish out of public water supply reservoirs with hook and line, getting the enjoyment possible that way. However, it appears exceedingly unlikely that any such millenium is to come in the foreseeable future, and the removal of the fish under controlled methods, for transplanting elsewhere, seems the best present alternative. At least it provides that some good fish will not go to waste by dying of old age in one water supply reservoir.

Who knows? Maybe, one day, a similar undertaking may prove possible in other water supply lakes and reservoirs across Pennsylvania that are closed to anglers.

* * *

Praise for Somerset Lake Project

The U. S. Fish & Wildlife Service doesn't toss banquets around promiscuously. That fact gives meaning to praise given the Fish Commission, and particularly the Commission's chief engineer, Thomas F. O'Hara, on the rapid but sound progress being made in the construction of the new 253-acre fishing lake-to-be in Somerset County.

From the streams

This reservoir is being constructed as a Dingell-Johnson project, which means that 25 per cent of the cost is being borne by the licensed fishermen of Pennsylvania, and 75 per cent of the cost comes from the federal excise tax on fishing tackle.

A field inspector for the fish & Wildlife Service, which "coordinates" the Dingell-Johnson program, inspected the dam site in the fall and wrote:

"We were very pleased with the progress of the work and the quality of the workmanship."

Any good workman is proud to have such things said by people qualified to judge his work critically.

* * *

Koon Lake Trout Runs

Late October was an ideal time for watching trout from Koon Lake run up tributary streams to spawn, Warden William E. McIlroy of Bedford reported. Water conditions were good, and observations indicated a large number of rainbows, big and little, were on the move.

The only "gimmick" was that some people came along with flyrods, apparently to see how many trout they could catch and release in a day. Yes, this seems to be legal, even though the open season for "catching and killing" trout ended last summer. There is a loophole in the law that does not now appear to forbid catching trout any time of the year and immediately releasing them, alive and unhurt. Should that loophole in the law be closed? What do the readers of this item think?

* * *

Fish Too Big?

District Warden Bert Euliano of Erie, advises that toward the end of the commercial fishing season the individual fish caught were generally too big for ordinary restaurant use, and that it appeared most of the fish had gotten that way feeding on smelt.

Incidentally, late fall sport fishing in northwestern Pennsylvania produced some nice

catches, including a 33-pound muskellunge and a 12½-pound walleye, both from Lake LeBoeuf.

Warden Edward Pond of Saegertown, told of checking some nice late season northern pike, walleyes and muskies from French Creek, and a fine muskie out of Conneaut Lake. Chief complaints he heard on his rounds were that some favorite bait holes are "playing out" and bait fish are getting scarce in places.

* * *

Dollars are Dunked!

William Boudier of Kingston told the following story to Warden John I. Buck at a recent meeting of Harvey's Lake Rod and Gun Club:

"One Friday evening last July, Andy Budash of Swoyersville, journeyed up the North Branch of the Susquehanna near Harding to catch bait we intended to use next day. Budash changed into swimming trunks, put car keys and money, (one \$20 bill, one \$5.00 bill, two \$1.00 bills) into a small pocket in his trunks, proceeded to get bait.

Later when he returned to the car the car keys and money were gone. He searched until dark, no keys, no money. Luckily he had a spare key along and was able to get home. After phoning Boudier of his misfortune, both men the following day were at the river at daylight, searched most of the day without success.

The following Saturday, 8 days later, both men were fishing the same riff where Budash lost his money and keys. About noon, Boudier hooked a nice bass, was landing it when he noticed at his feet in about 3 feet of water what looked like a dollar bill. After landing the bass he reached down into the river and picked up a twenty dollar bill. He called Budash and both men searched the vicinity, finding one of the one dollar bills that was lost.

They dried the bills on warm rocks on the river bank and spent the remainder of the day celebrating their find.



Fancy or Natural flies

By CHARLES M. WETZEL

(From Mr. Wetzel's new book, *Trout Flies, Naturals and Imitations*)
Stackpole Co., Harrisburg, Pa.

THE OTHER evening, while going over my angling library, I chanced to open up that bulky volume, *Favorite Flies*, by Mary Orvis Marbury. While I idly turned the pages, one or two paragraphs in the book claimed my attention, not only because they were so prophetic, but also because the author so clearly and acutely sensed that the old time trout flies were on the way out, and that a new era or cycle in fly fishing was developing. Allow me to quote the paragraph.

"As streams have become depleted and fish more shy they need to be fished with greater caution and skill, and there is therefore a greater demand for smaller flies delicately tied in colors less gaudy than those needed for the flies used in wild unfrequented rivers and lakes."

How prophetic was the above! Now that some fifty years have elapsed since these words were written, suppose we sift the ashes in search of the pure gold, insofar as it relates to the present day.

Gone are those wild, unfrequented rivers and lakes, and gone with them too are those gaudy trout flies so beautifully and artistically lithographed in *Favorite Flies*. In fairness it must be said that these gaudy creations were the aftermath of that wild orgy, when it was discovered that bass would rise to and take

a fly, provided that it reflected all the colors of the rainbow. If such flies were good for bass, then they should also prove attractive to trout, it was reasoned. And it must be confessed that in a limited way the above proved true, so long as angling was confined to wild, uneducated fish. Disciples of this gaudy creation cult included nearly all the old time anglers of the eighties and nineties, such as Seth Green, Reuben Wood, Fred Mather, Charles Orvis, A. N. Cheney, W. C. Prime, J. L. King, C. W. Stevens, Kit Clark, T. S. Updegraff, Ned Buntline, W. David Tomlin, J. A. Henshall, George Dawson, Charles Hallock, Henry Wells, W. C. Harris, F. J. Fitch, W. Thompson, J. G. Rich, T. S. Morrell, D. W. Cross, and a host of others. A few of them had the temerity to state that the most successful trout flies were those patterned after natural insects, but popular opinion, backed by the most expert fishermen of the day, decreed otherwise with the consequence that such remarks or observations were given little weight or credence.

However, as I have mentioned, a new era or cycle in the history of fly fishing was developing. The brook trout were rapidly diminishing in number due to the inroads of civilization, and these fish were being replaced by the brown trout, a moody, wary, and dis-

erminating feeder on natural insects. No longer could every Tom, Dick, and Harry equipped with a cast of three wet flies such as the Red Ibis, Parmacheene Belle, and Silver Doctor, venture out and return with a creelful of trout as in "the good old days." It just simply couldn't be done! What was needed to catch these fish were flies more sober in appearance and more nearly approximating the fly on the water.

And now we come to that second paragraph in *Favorite Flies* that struck my interest. Again allow me to quote it.

"At present, fishermen are chiefly, indebted to the fly makers of Great Britain for copies of the insects alluring to game fish. Their experience extends back for centuries before our time or country even, and until we have studied more thoroughly our own stream life, we do well to abide by many of their conclusions; but there can be no question that in the years to come the differences between the insects of the two countries will be better understood and defined, and that a collection of water insects interesting to the fishermen of America with directions for accurate imitations, arranged after the manner of Alfred Ronald's *Fly Fishers Entomology* would be of value."

As prophesied by Mrs. Marbury, a number of works relating to trout stream insects—insofar as they concern the American fly fisher—have appeared in this half-century interval. In sequence these are: *American Trout Stream Insects*, by Louis Rhead; *A Book Of Trout Flies*, by Preston Jennings; *Practical Fly Fishing*, by the author of this work; Art Flick's *Streamside Guide*; and Bus Grove's *The Lure and Lore of Trout Fishing*. It must be confessed that none of these books had a tremendous sale—few fishing books have—. After more than one decade only *Practical Fly Fishing* is almost exhausted, which gives one a fair indication of what the thinking angler desires.

And now suppose we look at some of the flies which have proven their worth on our highly educated trout of today. No longer will the modern fly book contain such old timers as the Parmacheene Belle, etc.; but throughout, there will be noticed an absence

of gaiety and gaudiness. These modern flies are imitations of insects that can be noticed flying over the trout streams. Among them, imitating the stone fly group, will be found the Yellow Sally, Willow, and the Light, Green, and Black Stoneflies; those imitating May flies are the Green, Black, Grey and Yellow Drakes, the Pale Evening Dun and Spinner, the Red, Black, Brown and Ginger Quills, the March Brown, the Great Red Spinner, the Iron Blue Dun, the Jenny Spinner, the Golden Spinner, and the White Gloved Howdy; those imitating caddis flies are the Spotted Sedge, the Grannom, the Brown Silverhorns and the White, Green, and Black Caddis imitations; the crane fly group is represented by the Yellow and Ginger Spider; while among the miscellaneous will be found the Fish Fly, the Alder, and the Black and Green Midges. Nymphs imitating all the above groups are also represented. Outside of the above no fancy flies will be noted, excepting of course, streamers, bucktails, marabous, feather minnows, and the like, which can hardly be classed as true trout flies. The latter, with all their gaudiness, will take trout, and larger ones too, but such lures are perhaps taken for some of our highly colored minnows or young brook trout.

Suppose we look a little more closely at some of these imitations of natural insects. In general they do not deviate much from the old time gaudy flies, except possibly in the absence of high colors.

An exception to the above are the imitations of the crane fly group. You will notice that extra long spade or saddle hackles are used. Some time ago, over at the Anglers' Club in New York, Edward R. Hewitt was telling me about the success he was having with large spiders or lightly dressed, long hackled flies, which when skipped and pulled over the water caused the trout to go crazy. I told him that I observed the same effect with the long legged crane fly imitations, and he attributed the success of these flies to the light spots set up when the hackle pierced the surface film of the water. Hewitt has christened his long hackled flies the "Neversink Skaters," and after fishing his water I had an opportunity to see their ef-

fectiveness. Trout leaped above the surface after the flies, one after another, and all in all, it was quite a display.

Among the May fly imitations you will observe both duns and spinners, as well as both male and female in certain species. It will be remembered that the dun represents the insect immediately after it has cast the nymphal skin. At this time it presents a very dull appearance due to the loosening of the sub imago skin that it will shortly shed to become a spinner. The spinner is usually differently colored from the dun in both wings and body.

Then again there will be imitations that do not represent any specific fly, but are tied up to bring out the most striking features of the genus taken collectively. I would say that the Quill Gordon is of this variety, although this may be open to question. Some of the imitations of the female spinners have an enlarged bulb near the bend of the hook, which is supposed to represent the eggsack of its prototype; examples of these are the Pale Evening Spinner and the Brown Quill Spinner. Some of these spinners also have upright wings, while others have them extended in a horizontal plane, the latter position imitating the spent fly as it floats downstream in its death throes never to fly again. This spent position is common to both the

male and the female, but the female imitation will probably prove the most successful, since she dies on the water more frequently than the male.

The stone flies, caddis flies, fish flies, etc. call for no special comment, but it will be observed that the nymphs differ from the usual market run in that they bear a striking resemblance to the naturals found on and around the stream bed.

Here in our heavily fished Eastern trout streams, we have found through experience that it pays rich dividends to match the fly on the water. Some doubters claim that they can catch just as many trout on a highly colored, fancy, dry fly as they could by using a close imitation; but after one or two trials, such would-be iconoclasts invariably admit their error. Color and form are far more important than some anglers realize. I believe in all sincerity that if a questionnaire were distributed to all the fly fishers in the East, nine out of ten would reply that the fly should conform to the insect on the water.

And what has brought about this transition? Simply this: the old time flies no longer produce, and fishermen realized that if they wanted to catch trout which were daily becoming more educated, they must give them something which is more than a mere bunch of gaudily colored feathers.



Anybody for fanwings?

IF YOU had opportunity to examine the box of flies I carry astream, you would find the biggest compartments packed with fan-wing flies. One compartment holds about four dozen wet flies in a variety of patterns and hook sizes with some nymphs mixed in. Three other compartments hold an assortment of conventional dry flies, the majority of which I tied to imitate aquatic insects commonly found on trout streams. Another section holds numerous streamers. But of all the flies enclosed, the fan-wings have come to be my favorites.

Certainly not all fishermen will agree with my placing such high regard for the fan-wing but the amount of fish this fly has taken in the last 15-years justifies my placing it in this position. When one is able to tie his own flies he has an opportunity to fill the box with whatever type he prefers. That's why my box holds so many fan-wings.

Sometimes weeks pass before I bend on one of these big winged flies. Particularly during the early spring when hatches are coming regularly and in volume, I then try to imitate the naturals with either dry or wet flies. But as the season progresses, the big winged jobs are the first tied to the tippet and sometimes they stay on most of the day.

I cover a good many streams in Pennsylvania during the course of a year and the results are pretty much the same. I prefer wet flies for trout early in the season or small dries when the fish are feeding on the surface. But to pound up fish when nothing seems astir, the fan-wing is my choice. And I'm not partial to any one particular pattern. I like the Cahills, Professors, Hendrickson, or patterns of all brown, all black or white. In fact the last three are my favorites for night fishing.

Chuck anyone of the big winged flies into the darkness. Take up a little slack line and wait. Listen for that heavy splash and you may find you're tied into a big brown. They love to smack a big fan-wing fly lying on the surface of a slick in which they are cruising.

This fly is not infallible but it has earned the lead position with many other anglers. To encourage others so that they might experience the fine fishing that comes when using this lure, the accompanying illustrations show how I tie my fan-wings. The tying operation is fairly easy and it is always a pleasure to hold the finished fly in your hands and observe its beautifully curved graceful wings. It appears as though any second it will be airborne.

Like building a boat, some fishermen prefer plywood over plank construction. The same can be said about the fan-wing. Each prefers to tie somewhat differently but the end results are the same—a boat that will carry him astream or a fly that sprouts big wings.

How long the wings should measure is a personal matter. Obviously the fly will spin badly while casting if they are too long. And, of course, if made too short the fly has lost its big wing appearance. One half to five-eighths of an inch is about the right length for a No. 10 hook.

The fly you see being made here is one of a hundred I recently tied to replenish my fly boxes. You are able to see the step by step procedure necessary to make this feathered lure. Anglers can easily duplicate the method of tying them and can duplicate all the pleasure that I have had while using this graceful fan-wing.



1. Breast feathers from ducks are best materials for wings. Use only the tip of the feather and remove all lower fibers.

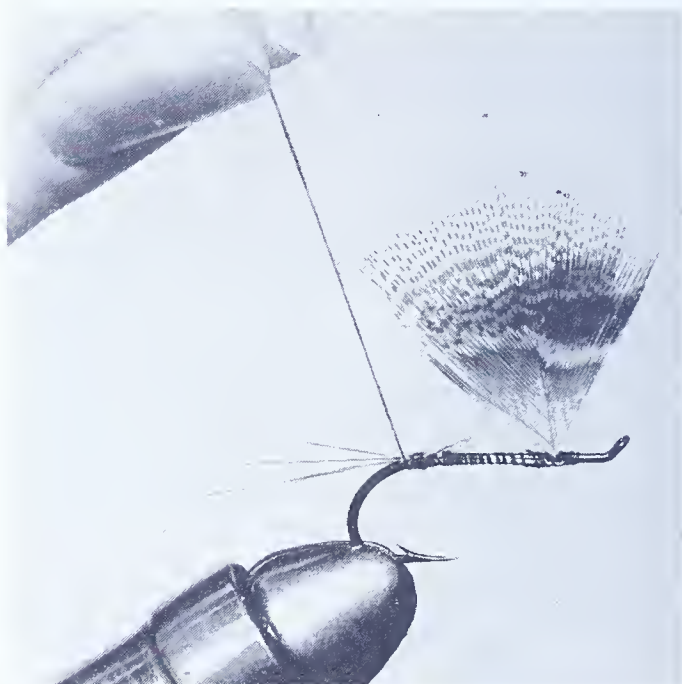


2. Wings should measure between a half and five-eighths of an inch in length for a No. 10 hook. Hold the wings near the eye of the hook and wind waxed tying thread around them.

3. Bend stems parallel to shank and continue winding thread thus holding the wings firmly in place.



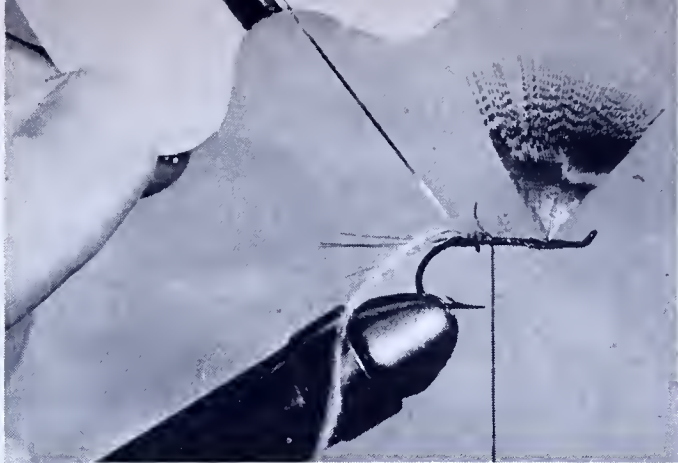
4. Next, select a half dozen fibers from a large, stiff hackle feather for the tail.



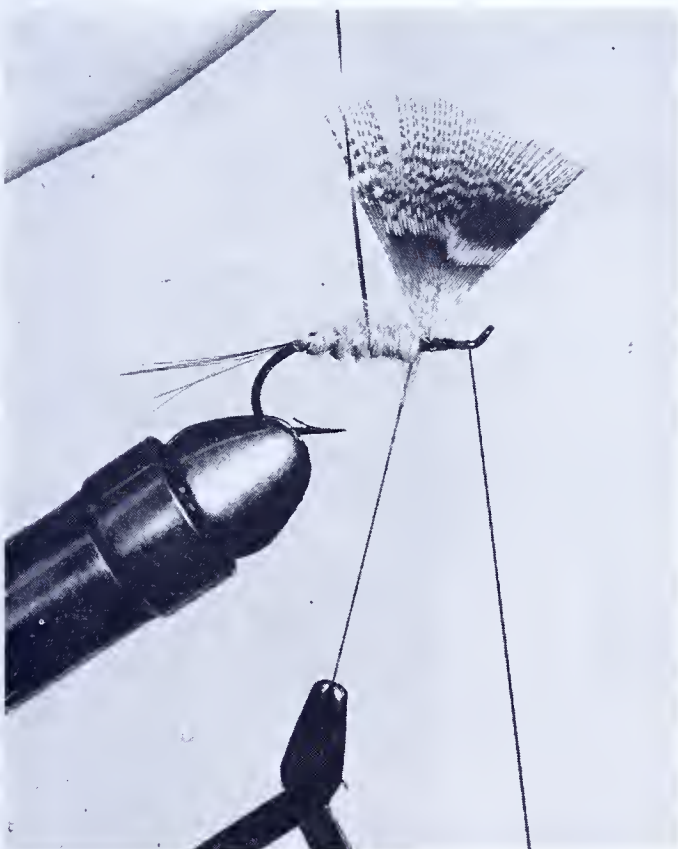
5. Hold the hackle fibers near the bend and wind the waxed tying thread around them.

6. Fur dubbing makes the body material. Pull hair from a piece of hide (fox in this case) and lay it beside a waxed thread on your trousers. Roll your hand over material until hair is wound around thread.



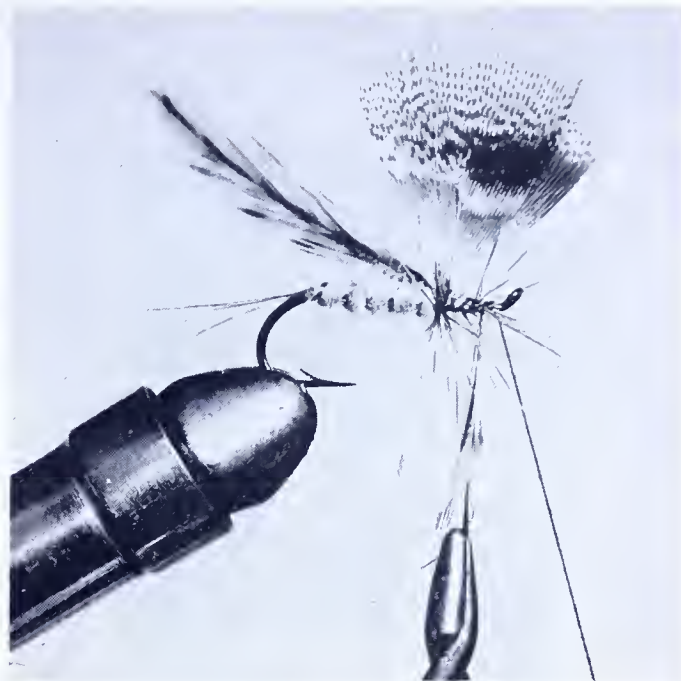


7. Tie the spun fur and a piece of tinsel to the shank of hook.



8. First wind the dubbing around the shank and tie in behind wings, then go back and wind the tinsel spirally around the body.

9. Select two stiff hackle feathers for the fibers that will support the fly on the water. Remove the soft fibers near the base and tie the stems of the hackles to the fly.



10. Use hackle pliers to wind the hackles in place. Make a few turns with the hackles in front of the wings then to the rear. Go back and wind in the second feather.



11. Here's the second hackle wound in place and the whip knot being placed over eye of hook to hold thread in place. The fan-wing is finished ready to take fish.



Canadohta Lake Yields Big Muskie

J. A. Russ of Verona, Pa., snagged this big 51-inch, 30-pound muskie in Canadohta Lake last October 16th. The fish topped a 48-inch, 19½-pound fish caught by A. H. Stenger of Pittsburgh taken in the same lake.



Blind Fish From Wells

Three kinds of fish have been found in water pumped from deep artesian wells. There is a goby from Japanese wells and two kinds of catfishes from deep artesian wells in Texas. These fish are totally blind and the catfishes have pink skins. It is likely that the ancestors of such fish entered underground waters long ago and have since become adopted to subterranean life.

—Texas Game & Fish

Fishing Guards Your Heart

Advice by Dr. Paul D. White, heart specialist in attendance to President Eisenhower, from an article appearing in *The Sunday Star* (Washington, D. C.) for October 2:

In previous generations our ancestors thought nothing of walking 10 miles or more on occasion, or riding a bicycle 50 miles or more, or working hard on a farm all day, or cutting down trees and chopping them up. Nowadays most of us have become very soft. I suggest that one of the best exercises is that of work on the land and in the countryside—gardening, forestry, fishing, hiking or hunting.

From Hell to Paradise

Harold Peterson is a parks ranger at Tahquamenon Falls state park. He lives at the nearby town of Paradise.

Before his move to the Upper Peninsula park, Peterson was a ranger at Pinckney recreation area. He lived near the town of Hell.

Peterson's move from Hell to Paradise was made because he was such a good ranger. He received an increase in pay and position, too.

- Many a man would reach greater height if he had more depth.
- The only thing necessary for the triumph of evil is that good men do nothing.
- Age is not a time of life . . . it is a state of mind.
- The trouble with opportunity is that it always comes disguised as hard work.

Fishing Leads Outdoor Sports

There are approximately three times as many "Compleat Anglers" as there are devotees of any other outdoor sport according to a survey conducted by the New York Sports, Travel and Vacation Show, held last March at Kingsbridge Armory, New York, and the Underwood Corporation's Samas Division.

Of the 35,075 persons polled, 28,395 answered the question on sports preferences. As might have been expected, fishing led the field with 17,269, indicating it is a favorite sport.

Boating was second, with 8,898 devotees. Hunting and camping appealed to 6,820 and 4,896 persons respectively.

An active interest in archery was indicated by 2,122 persons, right behind golf which drew 2,746 nods of approval. Tennis was mentioned by 1,698 people. Water-skiing, a fast-rising sport, drew more interest with 1,618 responses than did snow-skiing with 1,569.

Bearing out the contention that women as well as men are interested in participator sports, the survey showed 30 percent of the respondents was female.—*Connecticut Outdoor Sportsman*.

The Way of Nature

There are two terms in our everyday language which are familiar to all. They are "survival of the fittest" and "balance of nature."

Both have a somewhat common meaning—that the battle for life is constant—that each kind of plant or animal may be in conflict with other kinds, and that each individual is in competition with others of the same kind.

Nature prepares each fish, bird or animal, and each grass, shrub or tree by making the start of its life a struggle, without which it probably could not survive very long.

An example might be the Emperor moth. A collector found an Emperor cocoon and took it into his study to watch developments. Within

IT'S AN ICE COLD FACT...

... **THAT THIN ICE TAKES MOST LIVES EACH YEAR. MOST THROUGH CARELESSNESS OR IGNORANCE.**

DON'T GO OUT ON NEW ICE UNLESS IT'S AT LEAST 4 INCHES THICK. BEWARE OF ANY ICE AFTER A THAW. WATCH OUT FOR THIN SPOTS CAUSED BY SPRINGS OR SUBMERGED OBJECTS.

DON'T RUSH UP TO SO ONE WHO HAS BROKEN THROUGH, OR YOU MIGHT FIND YOURSELF IN THE SAME PREDICAMENT.

... INSTEAD, PUSH OUT A LONG POLE OR LADDER AND HIM TO SAFETY.

IF YOU CAN'T FIND A POLE, THEN USE A HUMAN CHAIN.

WHEN TRAVELING ALONE, CARRY A STOUT POLE WITH YOU. IT WILL BRIDGE THE HOLE IF YOU FALL THROUGH & ENABLE YOU TO GET OUT.

A COUPLE OF AWLS OR SHARPENED SPIKES WILL ALSO GO IN HANDY. WEAR THEM AROUND YOUR NECK ON A STRING. COVER THE POINTS WITH COTTON.

REMEMBER: THIN ICE IS NO PLACE FOR CHILDREN. KEEP THEM OFF UNTIL IT'S PERFECTLY SAFE.

JOHN F. CLARK

a few days there was a tiny hole, but no further action for days.

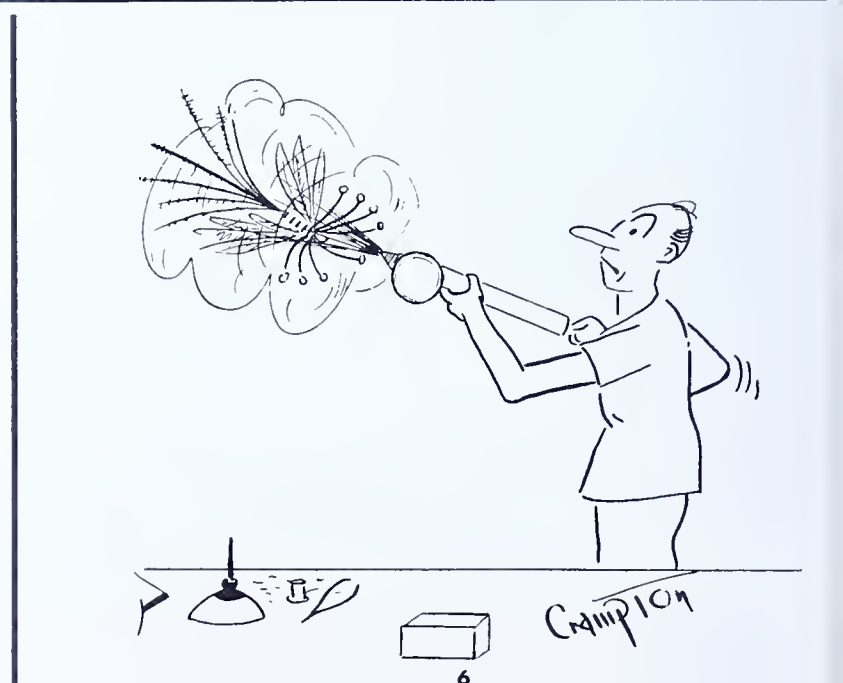
The collector reasoned that something was amiss and thought he would give the moth a little aid. He slit one side of the cocoon and the moth fell out. The moth moved helplessly for a short time but never was able to fly. The collector took it to a scientist and was told, "you killed it with ill-advised help."

The scientist then said that it is the struggle to get out of its cocoon that develops the wings. "No struggle, no wings." That is a law of nature which governs the world of plants and animals and it also governs human life in many ways as many know from experience.

- When the other fellow is set in his way, he's obstinate . . . when you are, it's firmness.
- Try to keep an open hand. If you go through life with a clenched fist, nobody will ever put anything in it.
- When you speak, please make it soft and sweet . . . you may have to eat your own words.
- You don't have to lie awake nights to succeed . . . just stay awake days.

Angling humor . . .

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— Mr. Angler 1956 —

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THE FEBRUARY
FISHERIES SECTION

ANGLER

FEBRUARY 1956

PENNSYLVANIA FISH COMMISSION



“Trees are Trees and Bugs are Bugs”

HOW often have you heard the expression, *I can't see the forest for the trees*? How often have you heard other similar expressions relating to animals, birds, insects, flowers?

A man catching fish along a lazy stream was asked by an inquisitive onlooker what kind of fish he was catching.

“Oh, I don't know,” came the quick reply, “. . . just fish.”

A waterfowler returning from a successful day on the river and proud of his kill of four ducks telephoned his friend. “Really slayed them today,” he said joyfully.

“What kind of ducks did you get?” asked the voice on the other end of the line.

“Oh, I don't know, *Just* ducks—mallards I guess.”

And so the situation goes. We venture forth into the great and wonderful out of doors and we don't know what we see. We go into the forest and see only trees. We see birds flitting about in the branches and all they are *is birds*. Snakes are all *poisonous* snakes and mushrooms are all *deadly toadstools*. Insects are all bugs and fish are simply fish. It is a regrettable situation. We're completely oblivious of individual species.

The man who goes to the woods and sees only *trees* and not oaks and maples and birches and beeches is not seeing the forest. He is like a blind man in a library surrounded by fine books.

Similarly the man who decides to spend the night out under the stars and gazes at the heavens until he's asleep, not recognizing one star from another, is missing half the fun of being out. How can you get the most out of your trip—be it fishing, hunting, birding, camping, collecting—if you don't know one bird from another, one rock from another, one plant from another.

The lack of knowledge on natural subjects by the average person today is appalling. This is especially true among young people. But ask the average youngster about the latest song hit or what's the best program on radio or TV, and you'll get an instant answer—and chances are it will be the right answer. In a way this is unfortunate because it points the way our youth is being trained today for the serious business of life. Better to watch a single natural phenomenon of nature in a wild setting than a hundred artificial programs that require no thought, no action, no participation, only passive acquiescence.

The person who goes afield and sees birds only as a mass of feathers is an unfortunate soul. The person who plods through the woods and sees only masses of trees in an effort to get a personal uplift might better stay at home. We can say the same thing for all other living things.

But this sort of blind ignorance needn't be. You don't have to have a wildlife degree to know nature and her ways. You can acquire a great deal of knowledge by yourself. There are a hundred and one good books on nature subjects that are fascinating to read. But you've got to *make* time and *take* time to crack them open for occasional check or study.

The man who will *not* take time—no matter how busy he may be—to do some occasional brushing up on the things of the world about him will never be a wise man.

If you like the outdoors and all that it stands for, you cannot afford *not* to do it. You can do it and you will be paid—yes, compensated for in a thousand ways in the form of more interest and keener enjoyment.

J. J. Shomon, in *Virginia Wildlife*.

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George W. Forrest, Editor

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The Heller Report

A summary of findings and recommendations of Robert Heller & Associates, of Cleveland, Ohio, management consultants, relative to Pennsylvania Fish Commission practices and operations.

Organization

Under prior organization and practices, inadequate recognition was given to such important functions as research and lake and stream management. Duties and responsibilities were not clearly defined, making the job of the executive director more difficult. Records and reports available in the field did not reach the headquarters office in Harrisburg. Over the years, control of activities centered in the Bellefonte office rather than that of the executive director. Fish distribution, instead of being under the control of the director or the chief biologist, who is in charge of lake and stream management, was under the control of the chief fish culturist, or general superintendent of hatcheries. Cost accounting also was under the chief fish culturist rather than the Commission's comptroller.

Although some steps have been taken toward strengthening the organization, much more remains to be done to permit achievement of the long range program recently adopted by the Commission. All recommendations made are designed to assist the Commission toward its new objectives.

Revision of organizational structure is recommended, in the ultimate form of which the law enforcement functions would become a part of the general structure of fisheries management.

In putting additional emphasis on fisheries management, the report recommends pulling together the related functions of lake and stream management, land and water acquisition, and the activities of the fish wardens.

This concept has some new aspects, not now in effect in any other state, in that it would place under a chief of fisheries management all the public fishing waters of the Commonwealth and give him jurisdiction over all controllable factors in improving them. These include biological surveys and water area planning, which means also setting priorities in acquiring properties, learning the number and kinds of fish needed to meet demand, fixing numbers and sizes to be stocked, and directing enforcement efforts.

Other changes are intended to strengthen research and engineering, to permit the chief of hatchery operations, or fish culture, to concentrate on propagation and growth of fish, and to transfer cost accounting to the office of the comptroller.

Pending the development of sufficient qualified personnel, from within the existing organization or by bringing in new people, interim action may be needed. New management controls recommended may be started in the near future in such form and to such extent as the Commission believes proper.

Fisheries Management

While lake and stream management is not new to Pennsylvania, work in the past was limited largely to aquatic studies and recommending types of fish to be stocked. The proposed organization would enlarge the management concept to include responsibility for actual management of fishing waters, not just making recommendations. Thus, responsibility now divided among four groups—the fishery biologists, chief fish culturist, chief of land



acquisition, and wardens—would be centered in one fisheries management staff under the direct line supervision of the executive director and assistant executive director.

Increased emphasis on lake and stream management, as announced by the Commission, seeks to correct and improve fundamental conditions that influence fishing, both as to character and amount. Under the proposed system, plans for fishing water improvement would be prepared by the regional fisheries managers (biologists) recently authorized by the Commission, to be implemented after approval by the chief of fisheries management, and approving review by the assistant executive director and executive director. Because of the complex nature and numbers of fishing waters in Pennsylvania the regional fisheries managers need help if the task before them is to be gotten under reasonable control in the foreseeable

future. That help can best be provided by the wardens, who not only are familiar with their work areas but who also are already performing some of the work involved in lake and stream management. Over the years the responsibilities of the wardens have been so broadened that fish law enforcement no longer constitutes the majority of their work. Analysis of their activities reports show they spend approximately 45 per cent of their working time on fish law enforcement, the remainder on a great variety of other Commission duties and activities, many of which have to do with fisheries management.

The wardens would continue to be the Commission's enforcement officers, with their enforcement work taking its logical place amid other duties, such as studying water conditions, creel checks for a variety of purposes, dealing with problems of pollution, channel changes,

and so on. Control over the many activities of the wardens would continue through monthly activity reports, monthly expense reports, annual performance ratings, and budget. One way that better control could be exercised over the actual work performed while patrolling lakes and streams, would be to use a system of reporting on creel censuses that would at the same time provide a check on the time spent patrolling. In keeping with the shift that has already taken place in emphasis on their duties, it is recommended that the title of warden be changed to conservation officer.

Responsibility for allocation of fish from hatcheries to public fishing waters would be transferred from the general superintendent of hatcheries to the fisheries management chief, who would prepare annual stocking programs for all lakes and streams based on reports from the regional fisheries managers. After approval by his superiors in the Commission, the program would be forwarded to the chief fish culturist, who would be responsible for the physical distribution of the fish in accordance with the approved program.

Office space should be provided for the regional fisheries managers. It is desirable that existing space in field offices of other state agencies be surveyed, to the extent necessary, to determine if usable office space is now available so new quarters need not be rented in separate building locations. The regional fisheries management offices should each have a clerk-typist, male preferred, who could also do field work, if needed.

Fish Culture

In past times the chief fish culturist has been responsible for many things not directly connected with fish propagation, and he should be relieved of these so he may center his attention upon hatching eggs, raising fish, and planting them in accordance with shipping instructions furnished to him.

Hatchery Operations

Some confusion exists because at numerous hatcheries job titles are not descriptive of work performed. Since it is expected that this situa-

tion will be corrected through the statewide job evaluation program now under way, no recommendations are made on that subject. It is recommended, however, that when the new position classifications have been completed, the chief of fish culture prepare for his branch of the Commission detailed organization charts based on work loads and assignments to be approved by the Commission as the official tables of organization for the hatcheries. This will not only establish the organization, but also give the executive director a means of exercising control over the numbers of persons employed.

Costwise, fish propagation is now the most important Commission activity, accounting for more than half the Commission's expenditures.

A number of weaknesses showed up in the operation of hatcheries. If use of present types of fish foods is to be continued on the present basis, storage capacity for such food is inadequate at some places. Not counting fish that are simply transferred from one body of natural water to another, 23 separate species are reared, and some hatcheries may handle as many as 12. From the standpoint of efficiency, a smaller number of species might seem desirable.

Examination indicates that trout are being reared at Tionesta, Corry and Pleasant Mount hatcheries where water does not seem entirely suitable. Tionesta, Eric and Torresdale have



sharp limitations as hatcheries, and the report proposed that close and critical studies of their worth should be undertaken.

Studies indicate excessive inter-hatchery transfers of fish. Observation at Bellefonte disclosed considerable fish handling made necessary by lack of facilities. There was shown to be a lack of detailed production and cost data that could be used to provide control. Basic information on pond and plant capacities was not available.

Specific recommendations included studies of newer fish feeding practices, more cold storage capacity for fish food where needed, restudy of hatcheries to determine the best usage for each, critical appraisal of the marginal facilities at Tionesta, Erie and Torresdale, increasing hatchery facilities where needed so as to reduce the need for fish handling, and critical studies of plant and pond capacities to determine productive capacity.

Aquatic Research

This has been considered a necessary evil in the past, something to which much lip service was given but not much support. Recommended organizational changes would facilitate research, at the new Benner Spring station and elsewhere, and would facilitate the application of research findings to hatchery and other operations. In turn, improved hatchery controls would provide basic data to be analyzed by the chief aquatic biologist and guide him in research work.

Engineering

The chief engineer should be given complete responsibility for construction and rehabilitation projects at hatcheries, including preparation of cost estimates for each project. Much of the actual work could still be performed by hatchery personnel, but with costs charged to projects. The chief engineer would continue in charge of all construction of new waters, and on access areas, easement areas, leased properties and other works, and he would have the responsibility of maintenance of lake areas and other Commission property. He would be re-

sponsible for preparing up to date plant layouts for all hatcheries.

The report recommended the addition of two engineering assistants to the staff, but it was felt that only one clerk would prove needed since cost accounting would be shifted to the office of the Commission comptroller.

Administrative Secretary

This official has been responsible for issuing various types of licenses and permits, without having adequate information on which to base decisions, and much unnecessary correspondence has been needed. Since in the new setup needed information would be in the hands of the chief fisheries manager, the report recommends that he be made responsible for this activity.

Files in the headquarters office are scattered and inadequate. Files should be consolidated, and the office files and library should be kept by a chief of files who would double as librarian.

While the administrative secretary is responsible for personnel records, he has not had personnel available to maintain records and process needed papers. Addition of an assistant to the administrative secretary is recommended.

Assistant Comptroller

It is proposed that the comptroller, now shared with the Game Commission, and his assistant assigned to the Fish Commission, have complete responsibility for all accounting, both financial and cost, including that performed now at the central field office at Bellefonte. He should prepare cost analyses and reports for use by the executive director. Some additional personnel would be needed in the Harrisburg offices; these would be in essence transfers from the field office.

Conservation Education and Public Relations

The Commission photographer should be physically located at Harrisburg and under the direction of the public relations chief, instead

of being at the field office in Bellefonte under the chief fish culturist.

Management Controls and Administration

The Commission has been handicapped by lack of reports and control information that periodically supply information needed to make decisions on day-to-day operations and future planning. The cost accounting system used in the field was set up by untrained personnel and is not integrated with the Commission's financial accounting system; data produced are not useful for control purposes, and are not complete or fully accurate. Planning has been handicapped by similar record lacks; for example, there are no reports to the Commission that show fully the status of Dingell-Johnson lake projects as they are developed, nor the amount of money spent and percentage of completion after construction has started.

The Commission should have facts as to the size and nature of demand for fish, the quantity and varieties of fish available in the lakes and streams, and the productive capacities of the hatcheries. It should have detailed cost information and routine reports on operations. The recommendation on organization changes and hatchery operation should provide many of the needed facts.

Recommendations to follow should provide other elements necessary for proper administration and management control.

In the field of *fisheries management*, it is noted that effective administration requires periodic reports on the status of work done by biologists and conservation officers in their regions, and of the real estate acquisitions and management staff. A separate reporting procedure is needed on D-J works. The chief fish manager will require complete records and data on all ponds, lakes and streams. A new system is needed to determine the most equitable distribution of fish to public waters. Recommendations include:

Establish procedures for status and intermediate reporting on D-J projects; prepare quarterly status reports of all work performed in fisheries management; revise existing reporting by wardens to include information on

work performed in assisting fisheries management; transfer biological survey and other records on lakes and streams to Harrisburg for use as source data on history and stocking; and establish a formal collective judgment procedure for allocation of fish to be stocked.

The last named recommendation indicated various steps needed to arrive at decisions including: Geographical locations, human and fish populations, fishing pressures and other factors; adjusting regional and individual area requirements of fish to reflect statewide conditions; determining an allocation ratio of fish to be stocked for each individual water area; re-evaluate stocking allocations annually to insure equitable distribution, since areas and requirements change.

In the field of *hatchery operations*, the report noted numerous notebooks kept at Bellefonte contain a wide variety of useful information about hatchery operations, but added that the information was neither adequate nor readily available for management control purposes. Cost data on labor, fish food and trucking were incomplete. It noted a variety of labor for which costs should be identified and brought under control. Also, a formal system of production and quality controls should replace the present system of control by expediency and personal judgment. Recommended were a series of reports that would be intended to give management information on the status of fish inventories, comparison of food consumption with fish growth by lots (or hatches) for production and quality control, comparison of hatcheries performance, actual costs of rearing fish to different stages of growth, and measurements of the amount of labor used in various kinds of work.

Recommended, too, were procedures for determining trucking costs for fish distribution, food shipments, and inter-hatchery fish transfers. The report noted that hatchery labor used for construction should be classified and included with the proper engineering project numbers for cost analysis. It recommended that tables of equipment needed by the Commission in its various field establishments should be prepared, and a planned procurement program undertaken under the direction of the executive director.

In the field of *engineering*, the report said cost control and planning reports should identify engineering responsibility for design, construction and maintenance of hatcheries, property surveys, and the design and construction of dam and lake projects. Progress reports are needed on property surveys, design, and field engineering for hatcheries, major maintenance projects, and construction of artificial dam and lake projects in addition to present D-J reporting. There is need for estimates of all phases of engineering design, construction, material and supervision to provide a basis for budgetary control and manpower analysis. Recommended specifically were projects numbering and control reporting for all functions of the engineering group, forecasting of the engineering group's work load and manpower requirements, and the supplying to the office of the comptroller estimates of labor and materials for use in preparing complete costs estimates on engineering projects.

In the field of *research*, it was noted there has been no formal procedure for establishing or authorizing research projects. Cost of research has not been budgeted, nor has control been exercised over time or money for specific projects.

Recommended were: Install formal procedure for authorizing research projects, and assign project numbers; provide quarterly control reports; prepare cost estimates and develop individual budgets for manpower.

In the field of *general accounting* it was noted that the new changes in effect should provide greater financial control of Commission operations, but that complete budgeting of labor, fish food, equipment expense, and projects is needed for effective management. It was recommended that operation costs for fisheries management, propagation, distribution, engineering and research be developed, that object costs be developed for all major activities of fisheries management, engineering and research, and that financial statements be provided and required at least every quarter measuring total costs against budgeted costs.

At the end of the narrative report, the Heller organization provided a number of tables and charts intended to substantiate findings and to indicate how the recommendations might be carried out. These tables and charts are not included in this document, but are available in the offices of the Commission at Harrisburg for inspection if desired.



The fish commission reports on its actions

R. Stanley Smith of Waynesburg, President of the Pennsylvania Fish Commission, reported the following important actions taken at the Commission's first meeting of 1956 on January 9 and 10, in Harrisburg:

Business Management and Administration

1. Accepted the report and recommendations of Robert Heller & Associates, Cleveland, O., as to business practices and procedures, and instructed that approved action be started by the Executive Director as rapidly as feasible after consulting with other officials as to appropriateness under Pennsylvania law and custom. (Details of the report given on preceding pages of this issue of **THE ANGLER**.)

2. Approved a schedule of merit increases for approximately 90 per cent of the Commis-

sion personnel, to be made effective upon approval by the Office of the Governor.

3. Approved changing the work week for all field personnel (other than the warden force) from the present 44-hour week, five and a half days, to 40 hours, five days, without reduction in total pay.

4. Set up details of routine procedure to be followed in seeking, examining and approving sites for creation of new fishing waters (with or without Dingell-Johnson fund assistance), access areas, leased properties and easement for the benefit of the fishing public.

5. Determined that existing access areas and related properties and easements shall be appropriately marked and developed for more beneficial use by fishermen.

6. Determined procedure to be followed, after consulting with the Office of the Attorney General, regarding concessions at Commission-owned fishing waters.

7. Heard a report that 200,000 surplus trout eggs were sold to a commercial hatchery in accordance with authorized procedure.

8. Approved plans for converting Tionesta hatchery into an experimental muskellunge rearing station, with associated activities at Union City as found feasible.

9. Approved plans for moving the Erie hatchery to Preque Isle State Park if satisfactory arrangements can be made with the City of Erie and/or the Department of Forests and Waters.

10. Instructed that the inadequate and inefficient station at Torresdale be vacated as quickly as existing fish stocks can be transferred to open waters, and salvageable equipment removed; meanwhile, search is to be instituted for a suitable location for a catfish station in eastern Pennsylvania.

Fisheries Management

1. Instructed that talks be had as quickly as practical with the Department of Forests and Waters, and the Columbus Municipal Authority, on possible ways and means of building Columbus dam on Brokenstraw creek near Corry, seeking the development of a multiple-use recreational area.

2. Instructed that steps be taken to secure approval of the U. S. Fish & Wildlife Service

to construction with Dingell-Johnson act money of Lower Woods pond in Wayne county, and Duteh Fork lake in Washington county.

3. Deferred action with regard to dam sites known as Sinking creek, Centre county; and Negro Glade, Somerset county. Deferred action on Levan dam, Lancaster county; North Jersey lake, Monroe county; and Harris Pond, Luzerne county. Abandoned consideration of Jamison run dam site, Lawrence county, upon objection of the Game Commission, on whose lands the dam would be built. Received word payment had been made to acquire Greeley lake, Pike county. Asked that strenuous effort be made to locate a suitable dam site in Blair county.

4. Approved May 11-July 14 as the open dates for Fisherman's Paradise, Spring creek, Centre county, this year. Changed rules to allow an angler to help another land fish; to allow cleaning or dressing of fish at designated areas on the property after checking out; to allow flies tied with tinsel or made of plastic to be used, as well as flies of fur or feathers; to abandon the practice of revoking the license of a fisherman caught violating Paradise regulations. Also, instructed that more adequate sanitary facilities be constructed at the Paradise, especially the women's section of the area. In addition, the creel limit on the open areas of Spring creek above the Paradise will be eight trout daily, the same as on the open

waters below the Paradise. Previously, the limit in the upper area had been six daily.

5. Decided to quit taking perch eggs at Pleasant Mount hatchery, in northeastern Pennsylvania, to be shipped to Lake Erie and planted.

6. Approved a staff suggestion that no more carp and suckers be planted by the Commission.

7. Voided a previous policy permitting the posting for five days of trout streams newly stocked in mid-season.

8. Approved special stretches of the following streams where restrictions as to permitted lures and limits will prevail: Big Bushkill, Monroe county; North Sandy, Venango county; Hickory and Mud runs, Carbon county; Dunbar, Fayette county; and Sedlock, Lancaster county; and lowered the limit to two trout daily from Kooser lake, Somerset county.

9. Decided to buy walleyes of legal length and larger from Lake Erie suppliers, to be transplanted to approved inland waters.

10. Approved rules and regulations relating to commercial fishing in Lake Erie, bait fish and fish bait, motor boats, and scientific and screen permits.

In addition, the Commission acted on a number of miscellaneous items, mostly of routine or internal nature.

"I explain why Presidents fish; they all went fishing; they all have, even though they haven't fished before. And that is because the American people have respect for privacy only on two occasions: One of them is praying and the other is fishing, and the President can't pray all the time."

—Ex-President Herbert Hoover.

"The basic problem of maintaining good fishing is about the same everywhere: putting enough fish of the right kind in waters that can support them and are accessible to fishermen. In nearly every state, the young science of fish management finds this something like putting three grasshoppers under your hat. By the time you catch the second one, the first one jumps out."

Dion Henderson—
Associated Press

Silt — a problem in fisheries management

From Wyoming Wildlife

KEEPING fishing good is a heavy responsibility. Fishermen expect good fishing. So do business people who get part of their living from sport fishermen—and there is an obligation to the generations of fishermen yet to come.

This assignment is not an easy one. Many of the forces of nature as well as many man-made forces operate against good fishing. In addition, more waters are removed from public use each year by landowner restrictions, increased water use and poor conservation practices. We must, then, take every possible measure to assure the maintenance of our sport fishing.

The trade brought to the western states by tourists is of extreme importance. And here is the meeting grounds between fisheries workers and highway officials. It is the highway officials' job to see that people are able to reach scenic and recreational areas on good, direct highways. It is the job of fisheries personnel to furnish one of the pleasures these people expect to find when they arrive.

The first thing to be dispelled is the popular notion that fish need only water to survive. Actually, water must be of proper temperature, suitable purity and furnish sufficient feed, spawning and hatching facilities if it is to support fish. Cover and resting places are also very important. The destruction of these habitat conditions is a great injustice to this and future generations.

An axiom of fisheries work is: "A fishery can be no better than the available aquatic habitat." Yet the encroachments of man's ever-expanding civilization are continuously taking their toll of suitable habitat. This encroachment has reached the point where there is no possibility of fulfilling the public's desire that fishing be maintained as it was fifty years ago.

It is fully realized that these developments cannot be stopped to preserve recreational fishing, but it should also be realized that the harm can be minimized without too great a hardship if due consideration is given to our valuable fisheries resources.

The Western States are famous for their trout fishing, but trout are particularly demanding species. They need clear, cold water with plenty of cover and an abundance of aquatic insect life. In order to maintain a fishery it is necessary to maintain the environmental conditions which make that fishery possible. By the same token, we must resist or counteract any detrimental alterations of that environment.

As far as highway construction is concerned, the creation of silt deposits in our streams is the most serious threat to our fisheries, although there are other threats.

The siltation of streams is probably the greatest single factor affecting trout habitat conditions and contributing to the decline of fishing quality in our inland waters. Silt is a type of stream pollution which destroys natural feeds, clogs the gills of fish, depletes oxygen and prevents light penetration. It may cover over gravel bars and prevent fish from getting insects on which they depend for food or prevent their eggs from hatching.

Highways built in such a manner that the stream bank forms one shoulder of the road not only create a maintenance problem for the highway departments, but invite the eroding of the stream bank disturbed by the construction activity. The resulting mud is injurious to the fish and their habitat. A shifting mud bottom is considered the poorest type of environment for fish. Silt deposition is actually a form of pollution. Tests have shown that under normal natural conditions stream turbidities do not ordinarily reach a condition

lethal to fish. It is only when the natural conditions are disturbed by man so that turbidities reach 175,000 parts of silt per million parts of water that fish die, although severe reactions may occur at about 85,000 parts per million of suspended solids. Fish will die within a period of 15 minutes to two hours in turbidities between 175,000 and 200,000 parts per million.

It is suggested that a preventive measure in the case of new construction and a means of alleviating this same situation that occurs in some places in already completed construction would be the reseeding of the slopes of cuts and fills and the bottoms of barrow pits. This would prevent the erosion that actually causes silt. Not only streams may be affected by silt deposition, but lakes which act as silt catchers often have their fishing permanently destroyed.

Another situation affecting the trout habitat is the rechanneling of streams done in connection with some highway jobs. In the first place, in the process of cutting a new stream channel much silt is deposited downstream from the construction area. In the second place, the

chute-like nature of the new channels permit too rapid a runoff of water when the stream is in its flood stage, thus causing the stream bottom to be completely scoured out and made devoid of the natural food on which the fish must depend. A straight channel also eliminates the natural conditions of cover and pool areas which are necessary if fish are to survive. Every turn in a stream provides a hole which fish use as resting areas and is also ordinarily an area of undercut banks which furnish the cover or hiding areas which fish seek as natural sanctuaries.

A similar problem related to this type of road work is the elimination of overhanging stream-side vegetation which not only furnishes food to the fish by the insects that drop from it into the water, but also furnishes cover areas.

Instances where streams have been diverted during bridge construction projects have resulted in heavy fish losses because of the silt churned up by the stream's flow through an unstabilized channel and also by the dewatering of the area between the diversion

Costs of getting rid of silt and mud in streams is high, requires heavy machinery, many man hours of labor.



point and the point where the new channel enters the stream channel again. Perhaps the placing of a culvert, rather than the use of a diversion channel, might alleviate the situation during the bridge construction. The placing of culverts is apparently not always as well considered from the fisheries standpoint as it might be.

Many such instances could be eliminated if the same consideration were given to fishery needs during highway planning as is given to the engineering phases. While most fisheries managers can do little more than ask assistance and cooperation from road construction agencies, they undoubtedly would be pleased to act in a consulting capacity whenever fisheries are involved in proposed construction projects.

The future of our nation depends upon the

conservation of our natural resources. It is important that anyone whose activities affect natural conditions realize their responsibility in minimizing damage whenever possible and that they take compensatory action in the process.

Even though any one group may feel that their activities have but small effect on the overall conservation picture, still many small effects add up to great damage in the final analysis. The fact that some construction agencies are realizing this and taking steps to alleviate the situation is heartening to people in conservation work.

The problem deserves the full consideration of both the public and constructors. We cannot afford to neglect any situation which threatens our ever more valuable fisheries.

Dinking water and fishing

EACH year some reservoirs near San Diego, California, support about a hundred thousand man-days of fishing. Angling on these waters is a major form of recreation for the San Diego folks.

The people who fish on these reservoirs must obey certain sanitary regulations. There can be only so many people in a boat. Fishing is not permitted near the outlet. Fishermen must pay a small daily fee to use this water. The fee pays for enforcement of these and other sanitary regulations.

These reservoirs furnish the drinking water for the city. That's why certain sanitary regulations are enforced. The regulations don't interfere with the enjoyment of fishing. The fishing doesn't interfere with use of the water for drinking.

San Diego has permitted angling on its water supply reservoirs for many years. The fishing has had no ill effect. No disease carried by water can be traced to fishing on the reservoirs.

The state of New York passed an interesting law in 1905—fifty years ago. This law provided that fishing shall be permitted on any natural lake or reservoir used or built by the City of New York for water supply. An amendment in 1940 provides for special restrictions in event of war or in any other state of emergency.

New York City is building more and more reservoirs to furnish water for its big and growing population. These waters are open to fishing. We know of no evidence that fishing harms the water for drinking.

The City of Tulsa, Oklahoma, has had fishing on its water-supply reservoirs for many years.

Tulsa anglers have always had good fishing waters near the city.

A few years ago in Massachusetts, big Quabbin Reservoir was opened to fishing. This 25,000-acre body of water is a major water supply for the city of Boston. The opening of this lake to angling greatly increased the opportunities for fishing in Massachusetts.

There are many other waters which are used both for fishing and for drinking water.

Mud and pollution, which greatly increase the cost of purifying water for domestic use, also ruin the water for angling. Good fishing water is also good drinking water, with the necessary purification, of course.

If many of our water supply reservoirs are fished, with no harmful effect, why do some communities still forbid fishing on their water supplies? The answer usually given is that fishing is outlawed for reasons of sanitation. The reason given is that the fishermen might spread disease to the drinking water.

There was a time when this explanation would have been an excellent one. Before we had modern purification systems, some epidemics were spread by germs carried in the water. Now, though, many towns even take water from polluted streams, and purify it. The sewage from one community mixes with water which becomes the drinking supply of the next community down stream.

Of course, we would prefer to have our drinking water come from clear, clean springs, or from wells. But, the big demand for water in a number of cities can be met, economically,

only by using the nearby rivers as a source of supply, and by purifying the water through modern means to make it clean and safe for drinking.

We no longer have a good reason for not allowing fishing, with certain sanitary regulations, on our water-supply lakes. The officials who oppose fishing on these waters simply don't want to be bothered with fishermen. There are plenty of examples to show that their objections to fishing on these waters are not valid.

We need good drinking water. It's important to our health. We need healthful recreation, too. The waters which supply one of these needs can supply the other as well.

As our population grows, we can no longer consider single use of our resources. If we can safely fish the water, and drink it too (after purification), this water will serve several purposes instead of only one.

Where fishing is permitted, and where there is close cooperation between the water supply folks and the anglers, the latter can be extremely helpful in using their influence to combat pollution and siltation. Both of these add decidedly to the cost of water purification.

If your city water supply reservoir is closed to fishing, it may be because a few folks don't want to be bothered and aren't interested in this phase of recreation.

The old saying that "you can't have your cake and eat it too" may still be valid. But, today, you can enjoy your water—and drink it too.

If on some future morning a Knight of the Panhandle approaches you on the street with, "Old Buddy, can you spare a dime for a glass of water," you will not think him off his hinges. It will just be a new era when pure drinking water has become a very profitable item on the stock exchange; when gentleman will ask gentleman . . . "where are you getting YOUR bottled water these days?", followed by . . . "I can get it for you wholesale!"

The landowner objects

THERE'S nothing new about it—its the same old story that we fishermen have become accustomed to hearing with almost the dawn of every fishing season. The minority have won another victory. Through the efforts of a few careless fishermen who insist on cutting a farmer's fences or simply pulling them down where they'll be easy to step over; who build fires in places without questioning if they will, by getting out of hand, endanger the farmer's property; who park their cars where they please without thinking if it might inconvenience the farmer or landowner; who toss their papers and refuse around over the parking area as if street cleaners are certain to make their regular rounds sometime during the night,—we have lost access to another highly fishable stream in the northwestern part of the state. Yes, the *I* fishermen have worked us into a fix—and thousands of thoughtful fishermen have been deprived of fishing one of the most beautiful trout streams in Pennsylvania.

This is the story of Spring Creek (the one up near Corry) where, for several years, the Fish Commission has leased the land on each side of the stream and maintained a nine-inch-limit artificial lure "paradise." At the start of the 1956 fishing season this stream will be closed by posting because the landowner states, "The arrangement just hasn't been compatible." Among the things he lists as being objectionable are all of those things I have stated above. However, he emphasizes that his chief objections are the discarding of all types

of garbage on his property, the disregard for his fences, and the molesting of lumber, fenceposts and other farm material that he normally places around his property.

Of course, there were other objections. In one case he told of having a fine field of hay which he sold to another farmer as it stood. By the time the field was ready to cut, he claims, a roadway made by the fishermen's cars along the edge of the field had robbed the farmer of several tons of choice hay. This, he says, was very embarrassing to him—and I think the average fisherman can fully understand why. In another case he tells of spending a full day putting a new roof on a barn that had fallen into disrepair with the intention of going back the next day to put in a floor. When he and two workmen arrived to work on the barn the next day they found where some fishermen during the night had scraped back the straw in one spot and built a fire. The rest of the floor was still deeply covered with straw that could have easily caught fire and burned the barn with its new roof to the ground. Is it any wonder he says the arrangement is incompatible? Especially when you consider that the loss of this barn would have amounted to more financially than he receives from leasing the property.

Then too, parking of automobiles has been one of the really sore spots ever since the "paradise" was established on this property. At his own expense and with extra labor on the part of the farmers who lease the property from him a parking area was established at



THIS makes the farmer hopping mad for obvious reasons. It lets his prize herd of cattle out to mingle with others of doubtful origin and may spread disease. The farmer takes the loss.

the bridge. With this move—giving up the ground required for the parking area, erecting extra fence to set it off, and building stiles—the farmers felt they were leaning over backward to please the fishermen. Imagine their feelings when they found cars parked in front of their gates, or even backed into the fences to the point of breaking them down.

When I heard the area was to be posted and closed to fishing I went to the landowner's office to talk to him. He confirmed the report he wouldn't renew the lease. However, he denied the rumor that the land was to be leased to a group of fishermen from Erie for a private stream. "Why," he asked, "would I lease to anyone when undoubtedly the things I object to would only be continued?" It was a good question. And, from his tone of voice I feel sure the fishermen can assume that if anyone wants this stream for private purposes they will be required to buy the land through which the stream flows.

Damage to the timber on the land, has been negligible. An occasional young tree has been cut or limbs have been broken from the larger ones. Yet, he does not register these occurrences

as a complaint on his part. This attitude is surprising to me for the land supports one of the finest stands of second growth timber in the area and if it were mine I can assure you it would be guarded from both the thoughtless woodchopper or the careless fire-builder. Such occurrences, are largely overlooked because they are considered a somewhat natural hazard on a fishing stream, but demonstrates overall broad-mindedness. In fact, in respect to the protecting of the woodland, he told me he was very grateful to the fish wardens and game protectors for the assistance they had given him. He told me that they had been most helpful.

And it was not only the protection of the woodlands that brought praise from the farmer for the State employees. He stated they had always tried their best to keep fishermen within bounds; had helped him on several occasions to clean up the grounds; and when the last fence had been built they had erected the stiles from lumber he had donated. He said that it was only the effort of the Commission's employees in helping him police the area that had influenced him to let the lease run to its conclusion. Otherwise, he would have taken steps to close the stream as much as two years ago.

(Turn to Page 18)



STILES provided by sportsmen's clubs, fish wardens and game protectors are becoming more common along streams. If fishermen will only use them many troubles will be over.

Profiles in driftwood —

Use a bit of imagination
characters.



SLUMBERING CROCODILE rests his chin upon this lake beach. DO NOT DISTURB!



PRAYING MANTIS with a horsehead may be as scarce these days as unicorns but driftwood objects in profile can take many mysterious shapes.

you can see in these wooden

By BETTYE BREESER



THIS HUNK OF WOOD looks like a cocker spaniel with his nose in the feed trough.

NOT DRIFTWOOD but this wooden dog-faced profile on a buttonwood tree stands guard over a likely looking trout pool.



BEASTIE from some prehistoric age sport wings, considerably shortened, of course but "out-of-this-world," nevertheless.

Too, he had a good word for the organized sportsmen of the community. Their cooperation, he said, had been highly appreciated by him and he regretted that in spite of all their efforts he still found the arrangement "to be incompatible." Here, it was admitted it was only the actions of "the few" that made the releasing of the property impossible.

All in all, though, I think it was a matter somewhat outside the usual category of complaints that was really the deciding factor in his decision. It was something the farmer or country-reared man will readily understand, but one that may be a little puzzling to the city fisherman. This factor is that most of the leased land is used to pasture a prized herd of Holstein cattle. A cut or damaged fence would allow this herd to get out and mingle with cattle of unknown origin which could lead to a breaking of the breeding line, or even to the contraction of the dread Bang's disease. And, if Bang's disease were brought into the herd it could lead to the complete destruction of the herd by state officials at a very heavy financial loss to the leasing farmers. Of course, the fisherman who snips a fence never thinks he may be fostering such a disaster, but it has

happened. It is a case of only taking steps to prevent trouble.

My impression, after talking with this man, is that he really appreciates the fact most fishermen did make an effort; that he feels a certain obligation to the employees of the Fish and Game Commissions as well as the officials of the organized sportsman's clubs who were helpful; but, that he is determined to terminate the lease before his goodheartedness catches up with him and he finds himself with a heavy financial loss on his hands. This is a show of good business sense with which no fisherman can find fault.

The loss of Spring Creek will be a heavy loss to all fishermen, and especially to those of the northwestern part of the state. It is the fault of the few—and yet *many* are to blame. How many times have you—or I—observed other fishermen do things we knew would be objectionable to the landowner, yet we turned our backs and went on about our fishing? So long as we are reluctant to help the policing of our fishing areas, then just so long will we be confronted with the closing of streams or parts of them. Its up to us—what are we going to do about it?

Grazing and fishing

Cows and sheep live on the land. Fish live in the water. Offhand, there doesn't seem to be much connection between the two. But, what the livestock do on the land can affect your fishing very decidedly. The cows and sheep, indirectly, can help to improve conditions for fish; they can destroy fish habitat, too.

We know of some rolling country where the farmers raised many acres of row crops—corn and tobacco. On the cultivated hillsides, mud

washed down hill during heavy rains. The mud entered the streams. So, the rivers and lakes in this area were usually very muddy. The game fish, which feed by sight, couldn't find their food. The food was scarce, too, because it couldn't grow well in dark, muddy water. There weren't many fish in this water. You could not catch many of them when you went fishing.

In this area, the farming has changed. The farmers began to raise more cattle, less row

crops. Some of the land which had been cultivated was made into pastureland. Grass was grown in many of the fields which formerly supported corn and tobacco.

Then, during rains, most of the water soaked into the soil. The grass held the soil on the land. It no longer washed into the streams. The streams became clear again.

The game fish could see their food again. There was more food for these fish, too. Fishing has improved greatly in this area. Indirectly, putting more land into pasture, and less into row crops, meant improved fishing.

In this instance, grazing restored the fishing. In many places, though, overgrazing destroys the fishing. There is overgrazing on some of our federal land, and also on some private land.

When too many livestock are grazed on the pasture, the grasses are destroyed. The rain water no longer soaks into the ground. It rushes down the hillsides and into the streams, where it causes floods. When less soaks into the ground, the springs stop flowing during long dry spells. So, we have high water in the streams at times, and very low water or none at all at other times.

With highly uneven flow, the streams are poor habitats for fish.

Water rushing down the hillsides will cause gulleys on overgrazed land. The soil is bare in these gulleys. Each heavy rain deepens them by carrying away more of the soil. It washes into the streams, where it destroys fish food, and muddies the water.

Too much grazing harms streams in other ways, too. The cows and sheep destroy the bushes which grow along the edges of streams. These bushes furnish shade, keeping the water cool. They also prevent erosion and collapse of overhanging stream banks. Too much grazing can destroy the hiding places of the fish. It can change a fine well-shaded stream into an open ditch which can support very few fish.

Over-grazing hurts the pastures as well as the streams. Weeds gradually replace the grasses. Too, the gulleys that form don't produce food for the cattle and sheep. Where the land is grazed too heavily, it will support fewer livestock in the future.



Many farmers have learned that overgrazing harms the pasture. They have also learned how to improve their pastureland by fertilizing and planting suitable grasses and other food for the livestock. They now understand that the all-important topsoil must be kept on the land, and that much of the rain must soak into the soil. This improvement in the farm pasture will benefit our fishing.

The most serious overgrazing now tends to be on federal land, on the lands operated by the Bureau of Land Management of the U. S. Department of Interior and by the U. S. Forest Service. These public lands, especially those of the Forest Service, attract some millions of anglers each year. In the National Forests, alone, there are 81,000 miles of fishing streams and over $2\frac{1}{4}$ million acres of lakes. There are 35 million visits per year by persons seeking outdoor recreation.

We can't let overgrazing on our public lands destroy the fishing waters.

There happens to be a close connection between cattle and sheep—and fishing. Where the pastureland is properly grazed there can be good angling in the streams and lakes of the watershed. But, over-grazing destroys your fishing.

Pennsylvania Outdoor Writers Host Outdoor Writers of America

The Pennsylvania Outdoor Writers will be hosts to members of the Outdoor Writers of America during the week of June 17, at State College. The annual convention of the national body is currently being planned by the State writers to form schedules of business and entertainment. Chairman of the affair will be Alvin "Bus" Grove, Pennsylvania State University instructor and frequent contributor to the *PENNSYLVANIA ANGLER*.

Historic Delaware Canal Reopened

Secretary Maurice K. Goddard, Pennsylvania Department of Forests and Waters, recently announced the reopening of historic Delaware Canal from Easton to Bristol. Drained and closed to general use since the disastrous flood of last August 18th, the Canal has required extensive rebuilding.

The Department of Forests and Waters has restored over seven miles of towpath, requiring in excess of 53,000 cubic yards of fill material. The required "fill material" was obtained from the canal bed, where over 118,000 cubic yards of debris was removed. Breaks in the towpath wall accounted for much of the reconstruction difficulty experienced. However, nine (9) water control gates also contributed to the problems included in the restoration of the Canal. These required complete rebuilding.

Of the eleven bridges washed out in the August flood, six have been replaced with 72" concrete pipe culverts. The remaining five are in various stages of rebuilding, and should be in complete use by early spring.

Secretary Goddard commended all personnel of the Department concerned with this project for the "splendid job, so well accomplished, in a comparatively short space of time." He further emphasized the importance of the Canal reopening by pointing out the

use made of the Canal's water "to provide fire protection to communities bordering its banks." In nearly all instances, fire departments of neighboring communities depend upon the canal as a source of water for fire fighting.

Once again Delaware Canal will provide its facilities to many Pennsylvania residents and visitors. Fishing, swimming, boating, ice skating, sight seeing, etc. will again be the order of the day, from the Canal's source at Easton to its terminus at Bristol.

1957 Scout Jamboree Scheduled for Historic Valley Forge

Governor George M. Leader announced that Pennsylvania has been selected by the Boy Scouts of America for their 1957 National Jamboree. The site of this outstanding youth activity will again be historic Valley Forge Park, the location of the 1950 Jamboree, when over 50,000 Boy Scouts spent ten days in encampment there.

In commenting on the selection of Pennsylvania for this national event, Governor Leader said, "This very good news bestows a noteworthy honor upon the Commonwealth of Pennsylvania. It is with sincere pleasure and pride that we extend the hospitality and cooperation of our State facilities, with the desire that the 1957 National Jamboree be the most memorable of all."

The Pennsylvania Department of Forests and Waters, in cooperation with the Department of Highways, arranged for rerouting of traffic and closing of all Park roads during the period of the Jamboree. Forests and Waters Secretary, Maurice K. Goddard, with the Valley Forge Park Commission, will establish a special schedule of duty assignment for all Park personnel. Tentative inclusive dates for the special road detours and personnel duty assignments have been set as July 2 through July 8, 1957.

Mr. Arthur A. Shuek, Chief Scout Execu-

In Pennsylvania

tive, advised Governor Leader that the National Executive Board of the Boy Scouts of America unanimously approved the selection of Valley Forge State Park for the 1957 Jamboree, based upon its historic significance and excellent facilities for the encampment.

French Creek Survey

A survey of French Creek in the northwestern section of the State was made recently by the Sanitary Water Board of the Pennsylvania Health Department, the U. S. Public Health Service and the city of Meadville to determine how much water will be required for further appreciable growth in population and industrially in the area served by that stream. The stream flows through a highly developed area in both Crawford and Venango counties, emptying into the Allegheny River at Franklin. The extent of the use of any waterway depends upon its size and practically complete use of French Creek is now being made by the industries and municipalities in that area.

All Used Water Is Treated

All the municipalities and industries along the waterway treat their sewage and wastes to a high degree which is said to eliminate the possibility of making more clean water available by the treatment process. Studies relating to water resources in the area have been made in the past and brought suggestions that additional water be made available by construction of impounding dams.

The study now being made is for the purpose of making a final determination of the actual effectiveness of treatment of the used water and the additional quantity that would have to be provided for certain specified further development.

The report covering the studies is to be given the U. S. Army Engineers to supple-

ment their surveys showing the need of providing greater water resources for the area.

All Material Not Removed

Although water used by industrial establishments and municipalities may undergo a high degree of treatment not all the waste material can be removed. However, treatment eliminates sufficient of the waste material before the used water is returned to the stream to make it usable by downstream mills and factories and also safe, after additional treatment in a water purification works, for domestic use.

Used to Capacity

When a stream is referred to as being used to its capacity, after the minimum requirements of the Sanitary Water Board for high degree treatment have been met, it means that it cannot assimilate any appreciable additional amount of the foreign matter remaining in treated waste water, and that, if it should receive an additional volume the result would necessarily be serious deterioration of the quality of the water and the usefulness of the stream would be reduced in proportion to the volume of the extra burden that might be placed on it.

True-To-Life Series Available For Kids

The True-To-Life stories published by the Fisherman Press, Oxford, Ohio, are important steps toward a better future for young outdoorsmen. The series includes 10 books, available in either cloth or paper binding, with such titles as "Woody Woodchuck," "Tommy Trout," "Billy Bass," and "Charley Cotton-tail." Paper copies are 50 cents, cloth copies, one dollar each.

U. S. Fish & Wildlife Has \$55 Million For '56

The U. S. Fish and Wildlife Service has close to \$55 million in special and appropriated funds for use during the current fiscal year. Funds appropriated to the Service by Congress for use in fiscal 1956 amount to \$12,675,500, an increase of \$1,222,500 over the previous year. About three-fourths of the Service's funds come from special sources such as revenue from duck stamps, taxes on fishing tackle and arms and ammunition and other sources.

Especially For Teachers

If you act now the newly published *Handbook for Teaching Conservation and Resource-use* can be purchased by teachers at a 20 per cent discount. The Handbook sells for \$4.00, but by addressing the Project Leader, P. O. Box 2073, Ann Arbor, Michigan, teachers may buy it for \$3.20. The proceeds will be used by the National Association of Biology Teachers to continue its conservation education activities in the many states.

Some of the most practical means of helping children understand the importance of our natural resources, are expertly described by teachers in the *Handbook for Teaching Conservation and Resource-use*, a 450-page illustrated book, just completed by the National Association of Biology Teachers.

The publication was prepared by 200 teachers from 30 states and shows how they have incorporated conservation and resource-use teaching into the schools. The "*How To Do It Stories*" and 82 pictures will help other teachers and youth leaders see "How To Get Started," "Where To Get Help," "What To Do In the Classroom," "How To Use The School Grounds and The Community," and how to develop such projects as school forests, school gardens, school camps, wildlife sanctuaries, outdoor laboratories, nature trails, and museums.

Getting Tough With Litterbugs

The New Hampshire Legislature has passed a law which, it is hoped, will help keep the Granite State's lakes and ponds and streams beautiful and clean.

The law provides that any person found throwing refuse or rubbish into public waters, the approaches thereto, or land bordering the waters, may lose his fishing or hunting license for the current year. This is in addition to the penalty which shall be a fine of not more than 50 dollars.

An Eleventh Commandment

"Thou shalt inherit the Holy Earth as a faithful steward, conserving its resources and productivity from generation to generation. Thou shalt safeguard thy fields from soil erosion, thy living waters from drying up, thy forests from desolation, and protect thy hills from overgrazing by thy herds, that thy descendants may have abundance forever. If any shall fail in this stewardship of the land, thy fruitful fields shall become sterile, stony ground and wasting gullies, and thy descendants shall decrease and live in poverty or perish from off the face of the earth."—The National Association of Soil Conservation Districts.

Anyone for Bees?

A state park manager in Michigan recently was called on to give a woman visitor first aid for a bee sting.

But unlike most stings, this one was inside the woman. She was talking and the bee flew in and stung her throat. It stopped her talking.

The manager pointed out that there probably wasn't much to be done for an internal sting. He suggested rest.

Chccred by the news, the woman's husband happily led away his voiceless wife. It was the first time in 10 years, he said, when she couldn't have the last word on anything. The bee purchasers line forms on the left.

Across the Nation

More on "The Thing"

"There's a strange critter out there on the sidewalk attacking people," a Parowan, Utah resident remarked as he rushed into a drug store, and raised his pant leg to view the damage done.

"Never seen anything like the thing—that's it, it must be 'The Thing.' Takes a bite out of everybody's leg who passes." Whereupon all rushed out of the drug store to view "The Thing." The proprietor captured the large graceful bird possessing the long sharp beak and webbed feet. The dark mottled feathers fitting close to the body, and other characteristics gave the local residents no clue to the bird's identity. Game officials were called to make identification. "The Thing" was promptly identified as a Great Northern Loon.

The Loon often nests as far north as the Arctic Circle, seeks out the solitude of marshes for his nesting activities. In visiting one of these marshes, though you may not actually see a Loon, his eerie cry is a dead give-away of his presence. The bird is a fish eater and has no trouble catching his prey. He is most dexterous under the surface of the water, using both his wings and feet to propel himself.

Why he should be found on the streets of Parowan is anybody's guess, but there is a possibility that in his night flight he mistook the damp streets and the effects of the Parowan lighting system for a stream bed, and was unable to rise in flight again. The Loon requires a considerably long runway to become airborne. It is noted that he desires a strong head wind to fly into when taking off. "The Thing" will become a part of Utah Fish and Game Department's collections of specimens.

Fishing & Delinquency

The newspapers comment more and more on juvenile delinquency. It's a growing problem.

In addition to the weakening of moral fiber, there seems to be a lowering in the physical fitness of our youth. Here is part of an editorial appearing in *The Washington Post*:

"Now comes a report that American children came out second to European youngsters in a physical fitness test. This study, according to the *Journal of the American Association for Health and Recreation*, was made of 4458 American children, aged 6 to 19, from urban and suburban communities, and of 1987 European children of similar ages and backgrounds in less industrialized regions of Italy and Austria. The Americans failed 78.3 percent of the tests, the Europeans only 8.3 percent.

"The authors of the study, Dr. Hans Kraus and Ruth P. Hirshland of the New York University-Bellevue Medical Center, attribute the physical facility of the European children to the fact they 'do not have the benefit of a highly mechanized society; they do not use cars, school buses, elevators or any other labor-saving devices. They must walk everywhere. Their recreation is largely based on the active use of their own bodies.'

". . . Yet this (the U. S.) is a country where vitamins are abundant, sports seemingly everyone's concern. However, the intake of both is becoming more and more passive. People get the one at the drug store, the other on the television screen or from the bleachers. This is poor preparation for any emergency that requires physical stamina. Both home and school are faced with the need to get youngsters off their seats and onto their feet."

One of the noted recreational resource conservationists of the midwest was "Cap" Fuller, of the U. S. Fish & Wildlife Service staff at Minneapolis, who died a few years ago. He often used to say . . . "a boy with a fishing pole in his hand may be truant, but he is seldom delinquent!"

Notes

A Lot of Eggs

How many trout eggs are 17,111,000? The only answer that would mean anything to the average license buying fisherman is "a heck of a lot."

Anyhow, 17,111,000 is the approximate number of eggs taken from the mature female trout in the Pennsylvania Fish Commission's hatcheries at Bellefonte, Corry, Huntsdale, Pleasant Mount and Reynoldsdale.

Brook trout eggs totaled 7,448,000; brown trout 6,206,000, and rainbow 3,457,000—in round numbers. The distribution of these, by hatcheries, was:

Hatcheries	Brook Trout	Brown Trout	Rainbow Trout
Bellefonte ...	410,000	6,206,000	2,043,000
Corry	1,550,000	....	....
Huntsdale ...	520,000	....	....
Pleasant Mount	2,588,000	....	....
Reynoldsdale .	2,380,000	....	1,414,000
Totals	7,448,000	6,206,000	3,457,000

October and November customarily are the busiest months at the various trout hatcheries. It is at this time that the brook and brown trout normally are ready to spawn.

Rainbow trout, in nature, have been spring spawners. Spring is the season when rainbows in their original habitat, in the western areas of the United States, lay their eggs. However, a fall spawning strain of rainbows has been developed, and this is the strain that the Fish Commission uses in its hatcheries. The chief difference in spawning of the three species is that the rainbows normally now spawn a bit later than the brooks and browns. Whereas the last of the brook and brown trout eggs were taken about the middle of November, the last of the rainbow eggs were to be stripped from the females about the end of the month.

Many of the eggs will be lost through natural mortality from one cause or another, but it is anticipated that enough will be reared to

proper size to provide ample quantities for stocking the public fishing waters of the Commonwealth in times to come.

Ordinarily it may be expected that about 80 per cent of the eggs will hatch into trout fry. Additional numbers will be lost in that early stage, lesser quantities as fingerlings and larger specimens.

Ice Fishermen Versus Skaters

For the month of December we had fishermen on some of the waters in Bedford County, one was able to find fishermen during the deer season.

The month of December 1955 showed an increase over any previous December for ice fishermen in Bedford County.

On December 28th a call was received from a lady, asking for my help in relation to a condition existing between ice skaters and fishermen at the Shawnee Lake. In my investigation I found no ill will between the two groups. There was a concern in relation to the holes the fishermen had cut and were cutting in the ice, it was felt the holes were dangerous to skaters, which I feel was correct. It was suggested that the holes would be marked, this was carried out. This occurred during my vacation, so part of my vacation was spent skating and having an enjoyable time among both fishermen and skaters. I feel that friends were made for the Fish Commission through this association. —William E. McIlhenny—Bedford County

Robins Come Lately

While patrolling for game violations in Penn Twp. on the 6th day of December I observed robins, about 500 in the flock, the weather cold and with a strong north wind. This group of birds was headed South but very late in the year for them to remain around here.

The new lake on Glade Run has attracted many water fowl. Everytime I was in there this fall there were lots of ducks and geese on the lake.

—Clifton Iman—Butler & Beaver Counties

From the streams

Nice Smelt

Last fall while patrolling Presque Isle Bay and checking fishermen, to my surprise I noticed smelt in the fishermen's buckets. Upon inquiring I found out they had been catching perch for about 2 hrs. then the perch stopped biting and they started to catch smelt. It came as a surprise to the fishermen because the smelt were biting on minnows. (Minnows were quite scarce at the time.) I checked on a fisherman and he had 25 smelt from 8 to 10 in., another had 14, another had 9 and the rest had from 6 to 7. While I was down on the dock, my wife had received telephone calls concerning the legality of catching smelt with a hook and line at the public dock.

—Bert Euliano—Erie County

Doe Gets Guillotine

During the past buck season two albino doe were wantonly slain by hunters. One doe had its head removed leaving the rest of the carcass intact. The hunter who killed this doe evidently wanted the head to mount. The doe kill in my District during the two day season was comparatively heavy.

—Norman L. Blum—Forest and Clarion Counties

Big Spawning Browns Lure Violators

While patrolling for game violations along Conneaut Creek in Crawford County, I observed very large brown trout on their spawning beds. It is the writers opinion that each year there are some of these large trout taken by violators at this time as they are very bold and will stay in very shallow water until a person can walk right up to them and any one with bad intentions could easily shoot them with a shotgun. Less than one week after these fish were seen spawning we had very high and muddy water and after the stream went back to normal there was no evidence of the spawning beds nor the eggs that had been laid on them.

—S. Carlyle Sheldon—Northwest Division Supervisor

True Bull Story

Egbert Beebe in West Chester Fish and Game Sporting News, tells how one evening last summer about 9 o'clock, Elwood Tucker and he were walking up from the borough dam to the Airport where Tuck had parked his car. Tuck suddenly said, "Oh! Look out!" Directly in front of us stood a bull with a "Don't tread on me" look in his eye. Tucker made a pass at him but we quickly agreed to use our legs.

There was a path through the bushes and we made tracks at double time. Making for the car, we ran into a barbed wire fence with a wood pile on either side. On glancing back I saw the bull directly behind me and I think I could have bitten him on the nose. Firmly believing that of valor the best part is discretion, we ran on straight into more barbed wire fence. Tucker, being younger and more agile than I, made it first; then he turned to help me for I was caught on the wire. Tuck lifted my one leg over and then the other saying: "Are your clothes torn?" I could feel the draft, and feeling in the rear, sure enough there was no seat left in the trousers. I came home in rags and feeling much more like the laughing stock than the hero.

Looking back now, it was fun; but not a fishing experience I'd care to repeat. Neither of us would.

Penna. Angler Wins National Contest Honors

A Pennsylvania angler won one of the top spots in *Field and Stream's* national contest sponsored annually by the magazine. In the Brook Trout Fly Fishing contest, runner-up with a 7 lb., 1 oz. trout was W. E. Sheridan of Clarion, Pa. The second-place fish was taken on a Royal Coachman tied by Harold Stitzer, a fish culturist at the Pennsylvania Fish Commission's Benner Spring Project near Bellefonte. Taken at Chapleau Lodge, Ontario, the big brookie was just over 22 inches long, took 35 minutes to land.

Low-brow angling

By FRANK J. FLOSS



THERE are those fellows who turn up their noses at any kind of angling except game fishing. Men who fish for suckers and other non-game fish are, according to the purist's way of reasoning, fishermen of the lowest order. To these narrow minded birds, I say: Nuts!

In many sections of the country sucker fishing is just as popular as game fishing. Why? Because sucker fishing is most relaxing fishing.

There are no miles of rugged streams to wade; no rowing, no trolling in the hot sun, nor arm tiring casting for hours on end.

All that's required by way of exertion is reeling in the fish. Time between fish or bites is often long, often bites come fast with much action. If the weather is cold and windy a cozy campfire, the smell of woodsmoke is an outdoorsman's delight!

Sucker fishing is at its best early in the spring when the suckers head upstream to spawn and for days large schools swim upstream seeking shallow waters in which to reproduce their kind.

At this time a good position on the bank of a stream that flows into a lake or river will produce good fishing. And what species you hook into may surprise you for the sucker family includes buffaloes, chub suckers, carp-suckers, and suckers.

However, suckers are catchable throughout

the summer as well. But they are then fast-water fish and must be fished for in fast riffles, or the head end or tail waters of a pool of such fast waters.

The most popular bait for suckers is worms, but other baits such as dough-balls, small mussels or a piece of the lip of a large mussel, or a small hunk of the white meat in the tail of a crawfish, will also tempt them.

Tackle of all sorts is used. I use either a light 3 oz. flyrod with a balanced ungreaased sinking line or a light spinning rod with a monofilament nylon line. And on the flyrod I use an automatic fly reel that takes up line fast. But use an enclosed spinning reel for night fishing because the bail arm on the open spinning reels is a hard thing to open and set right for a cast in the dark.

The big secret of catching suckers is not so much in the rod, reel or line used. It's in how the terminal tackle is rigged.

Suckers are bottom feeders and the bait must be kept on the bottom where the sucker can see it. They seldom if ever take bait that is floating along with the current or hanging 10 inches or so above their heads. They swim along the bottom and suck food into their mouths with a vacuum cleaner action.

When terminal tackle is rigged in a normal manner with short dropper loops for the hooks

on a 3-foot leader, the sinker rests on the bottom, but the current stretches the main line and leader and raises the baited hooks off the bottom, where the sucker will not go after the bait.

Suckers are lazy and you must put the bait down on the bottom where they will have to expend as little effort as possible to reach it. To do this attach additional lengths of gut leader about 12 inches long to the dropper loops and tie hooks on the end of them. The additional length of the dropper loops will keep the bait on the bottom no matter how tight you keep the line. And I'll guarantee that in using this rig you'll catch suckers where you never caught them before.

Sinkers of course are important too in sucker fishing as they should be just heavy enough to hold your bait where you want it. A sinker that is too light will roll along in the current or float in the current when the line is tightened with the reel to take up slack. In fast water with a smooth bottom where a sinker will not stay put, use a pyramid sinker, the corners will dig into bottom and keep the

bait from drifting. Or if the bottom is rocky with many snags use a snagless sinker.

For hooks, use the smaller sizes for suckers. They have sensitive mouths and when they feel a hard, large hook will let go of the bait but fast. Use light wire short shanked hooks in size 8 or even 12 if the fish are running small.

When taken out of cold water suckers are good eating too when pan fried crisp and brown. Clean fish by removing entrails, then take a pair of scissors, cut off the fins, tail and head, then scale and wash in cold water. Dry lightly and roll in flour. Put in a hot well greased skillet and fry until crisp on both sides. Man that's eating!

Dig yourself some worms, Podner, and try sucker fishing for relaxation. Once on a stream all you have to do is cast your bait, let the current carry it along until it anchors at the head or tail of a pool. Then tighten the line with the reel and set back and relax. When a sucker gets around to taking your bait your rod tip will signal that some member of the sucker tribe is begging to be hooked.

Let's get to the vise

By JOHN F. CLARK

Illustrated by the author

IF YOU like to fish you will enjoy tying your own trout flies.

There is no greater thrill than seeing a trout, large or small, "rising" to an artificial of your own manufacture.

However, I feel that I must warn you at the outset of your flytying career, once this hobby gets hold of you, you will become a different person. Like iron filings are attracted to a magnet you will be drawn deeper and deeper into the various channels of this fine art.

Your happy home life, if you have same, will be greatly affected.

You will pay no heed to the demands of your loved ones.

Your business will suffer.

Friends will give you the evil eye when they pass you on the street.

You must be prepared to spend countless hours locked in your den or a shadowy corner of the attic or basement.

You will take to picking up odd bits of yarn, tinsel, feathers, etc., in strange places—(street, subway, office, alleys, city dump, attic, basement, etc. . . .)

All this will cause much head shaking and

mumbling amongst your relatives and acquaintances. They may even seriously consider calling in a psychiatrist.

However, this needn't alarm you too much, as most psychiatrists (if they've been in business very long) have run across cases like yours before. They know you will be back to normal in about three months. By a strange coincidence, the start of the trout season.

Now that I've warned you sufficiently, and you're still willing to proceed, let's get into the meat of the subject.

MATERIALS; Gathering of

The most important item, of course, is the hook. So it stands to reason that if you want first quality flies, then you should buy only the best hooks made.

You can purchase these at one of many fishing tackle firms.

If you are undecided as to what types to purchase, then consult with several of your fishing friends who know something about the subject.

A word of warning at this point—DON'T MEET THEM ALL AT THE SAME TIME AND IN THE SAME PLACE!!

MOST fisherman-fly tyers have their own ideas along these lines. So, unless you're prepared to pay expensive damage to your living room furniture, and also for doctor bills, then meet them one at a time.

You probably won't know anymore about hooks when you're through talking with them than you did before. But it was a good chance to get together, wasn't it?

Here's a list of some of the important materials you will need:

Tail materials, body material, hackle feathers, wing materials, tying thread, vise, hackle pliers, scissors, clear nail polish.

Tail materials are usually obtained from the large neck hackles of various colored hens. Also from golden pheasants, amherst pheasants, peacocks, etc.

Body materials are many and varied: Wool (from that old sweater that's been hanging in the closet for years), all colors of thread, floss, chenille, tinsel, fur from rabbits, squirrels, muskrats, alley cats, skunks, Tibetan Ring Tail Hoptopus, etc. If you are a hunter as well as a fisherman, then you should be able to

keep yourself well supplied with the last mentioned articles.

The hackle problem is easily taken care of. Namely: purchase a flock of chickens of various makes, models, and colors.

Now this might lead to complications, especially if you live in the city. However there is a happy solution to this problem: MOVE TO THE COUNTRY!! Here you can pursue your hobby unmolested.

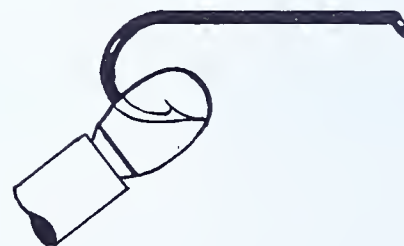
A few duck wings will keep you well supplied with wing materials. A few bucktails will also serve the purpose. That is if the bucks have no objections.

Tying thread, vise, and hackle pliers can be purchased from a tackle supply house. Or if you are handy with tools, you can make your own. Use a spring type clothes pin for hackle pliers and the vise can be improvised from a pair of old pliers with a wing nut to clamp the jaws together.

If you really want to get into it, you could even make your own thread. However, this would involve buying silk worms and a post graduate course in thread making.

Scissors, and clear nail polish you can filch from your wife's dressing table.

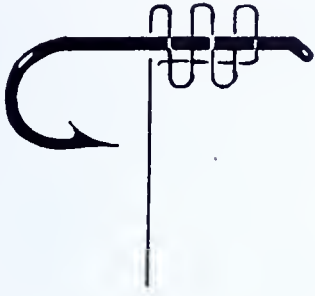
And now, assuming that you have all the above mentioned paraphernalia spread out on the dining room table, we'll get on with the tying of the trout fly.



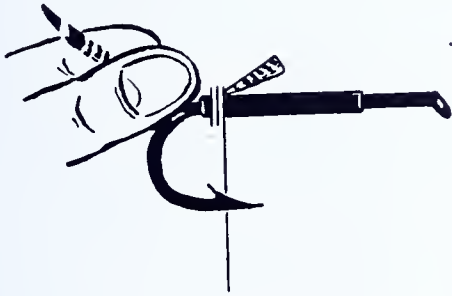
First we clamp the hook firmly in the vise. The point and barb should be completely covered by the vise jaws. You'll soon see the wisdom in this after you have snagged the tying thread a few times.

Next attach the tying thread to the hook as shown in the drawing. This is accomplished by wrapping one end of the thread under itself. Continue wrapping the thread evenly back to the bend of the hook. Clamp a spring type clothes pin to the loose end to maintain a steady pressure. Of course your wife might object to

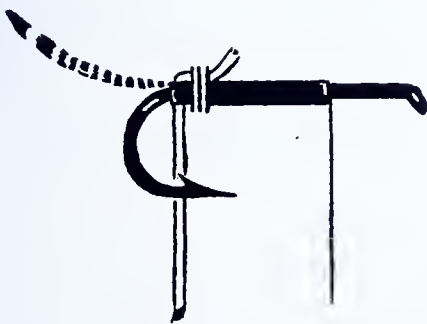
letting the wash flop around in the mud, but that's one of the hazards you'll have to face.



Select the tail material and attach it to the rear of the hook with tying thread. Hold the tail between the thumb and forefinger of your left hand while you are doing this to prevent it from sliding to the side of the hook.



After the tail is secured, then tie in one end of the body material. Continue winding the tying thread towards the eye of the hook. Let the thread hang while you go back and wind on the body. Tie it under at the front of the hook where you left the thread hanging.



The wings are tied on in much the same manner as you attached the tail. The only difference being that you take several turns of thread in back of the wings to make them stand upright. By winding the thread back and forth between the wings you can also get a split or spent wing effect.

Select a hackle feather of the proper length and strip off the soft, downy fibers at the butt end. These fibers are very absorbent and tend to make the dry fly sink rapidly. Leave these fibers on your wet flies because you want them to sink.



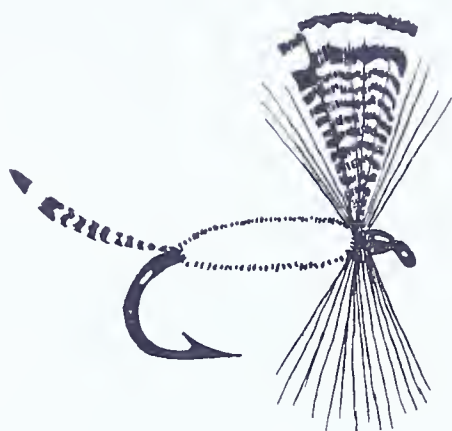
Now then, tie in the butt of the feather behind the wing. Use as much pressure as the thread will stand, otherwise the feather might pull out while you're winding it. Attach your hackle pliers to the tip of the feather and com-



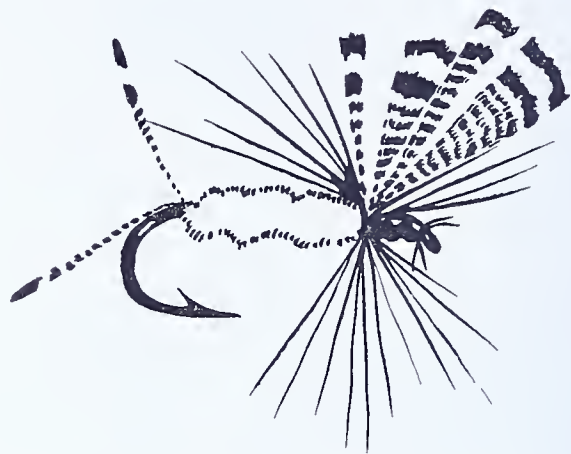
mence winding. Take two or three turns in back of the wings and a couple of turns in front. Then, still holding unto the hackle tip, take a couple of turns of thread over the feather to secure it in place. Cut off the excess with your seissors.

The head is easily finished off by tying several half hitches at the front of the fly, and then giving it several coats of clear nail polish.

Your finished fly should now look like this:



But, alas! Your first attempt will probably look like this:



Don't let this discourage you though, even Rembrandt didn't paint a masterpiece the first time he picked up a brush.

If you still can't tie them after several hundred attempts, don't despair, you can always go into the chicken business.

Films Available

For use by organizations, groups, schools, etc.:

"Waters of the Commonwealth," produced in Pennsylvania. Shows necessity for Clean Streams and how the anti-pollution program is carried out.

"Tale of the Twin Cities," shows how St. Paul and Minneapolis joined to provide sewage treatment and clean up their river areas.

Each 16 mm, in color, with sound, about 23 minutes.

"Health in the Cycle of Water," stream pollution film, 16 mm, black and white, sound, about 23 minutes.

Address Public Relations, Sanitary Water Board, Box 90, Harrisburg.

In the United States about 300 pounds of steel is processed into fish hooks on an average day.

An exclamation point is just a period that has blown its top!

Usually a man with a narrow mind has a wide mouth.

An average of 66,591 cans are opened every minute in the United States . . . if there are any doubts about these figures just look where litterbugs dispose of them.

Carp Pickles

Here's a recipe for pickled fish that was sent in recently by Clair Rausch, Iowa conservation officer. A method of preparing carp, quillback or any rough fish.

First, skin fish and cut into serving pieces. Sprinkle salt directly on layers of fish and let set for one hour.

To prepare pickling brine:

1 quart of vinegar (red wine or white vinegar)

$\frac{3}{4}$ cup of sugar

$\frac{1}{2}$ teaspoon whole peppercorns

1 teaspoon of pickling spices

2 medium sliced onions

Bring the pickling brine to a boil, add fish and simmer for 10 or 15 minutes. Then place fish in jars and place in refrigerator for 24 hours. The fish are then ready to serve.

This recipe will prepare two quarts of pickled fish.

"He that thinketh by the inch, but talketh by the yard, deserveth to be kicketh by the foot."

from Here and There

Pennsylvania Sportsmen's Show scheduled for Harrisburg March 20-24.

The Pennsylvania Recreation and Sportsmen's Show will be held in the Farm Show building, Harrisburg, Pa., March 20 to 24 inclusive. Over five acres of display space will bring "Outdoor Living," the theme of the show to Pennsylvania sportsmen. An estimated 250,000 persons are expected to attend.

Outdoor and vacation equipment of all sorts will be on display including garden accessories, picnic supplies, sports cars and light airplanes. Conservation groups, state and national have indicated they expected to place conservation exhibits.

Attractions will include: target and field archery, rifle competition, field dog competition, trophy shows, visual aid program, golf instruction, public instructions, demonstrations and entertainment . . . live models displaying beach and sports wear.

Show officials say their desire, as the main purpose of the show is to create a greater interest in the economics and healthful aspects of all outdoor activities. Barkers, pressure selling is forbidden. John W. G. Altland is Executive Vice-President of the affair.

Newlywed Perhaps?

"Dear Sir:

"I am a housewife and I like to do nice things for my husband. He likes mincemeat pie and I would like to bake him a nice fresh one.

"Please tell me when the season opens on minces and where is a good place to hunt them?

"Do I need a license?"

Your very truly,

(Name withheld by request)

Far as we know, no open season on minces, although some of the pie we have eaten lately should have a bounty on it.

—Letter in Wildlife in North Carolina.

If all the crutches were laid end to end, there still wouldn't be enough for all the lame excuses.

Creed of the Aliquippa High School Conservation, Fishing & Hunting Club

The club, under the direction of Larry Blaney, lists the following responsibilities of a fisherman. It could very well be adapted to all Pennsylvania anglers, young and old:

1. Know and be able to indentify the various game fish.
2. Master the principles of bait and fly casting and also, spinning.
3. Learn lake and stream fishing tactics.
4. Fish with artificial, rather than live bait.
5. Know and observe *YOUR* Commonwealth's Fish laws to the letter.
6. Learn, practice, and teach Conservation, so that the high school boys and girls of tomorrow may enjoy the sport that is yours today.
7. On lake or stream, *ALWAYS BE A GENTLEMAN.*
8. To become a sportsman, you first must "*BE A GOOD SPORT.*"
9. Always respect the rights of others.
10. Fishing is recreation—relax—don't make it hard work.
11. Don't destroy trees, shrubbery, or cover along the stream.
12. Don't be *A LITTERBUG*—appoint *YOURSELF* as a clean-up committee of *ONE.*
13. Always be careful of fires at all times—*GOOD COVER* on a watershed means *GOOD FISHING.*
14. Practice at all times being "*A GOOD CITIZEN*"—it doesn't cost anything—*YOU SET THE EXAMPLE.*
15. The 3 R's of every Sportsmen worthy of this name are Respect, Rights, and Responsibility.

For Whom the Bell Tolls

A newspaper in Texas recently editorially endorsed "Soil Stewardship Sunday" by stating: "This religious recognition of our responsibilities for the soil is a good thing. For the soil, like the bell that tolls for all, was created for no one man but for everyone."

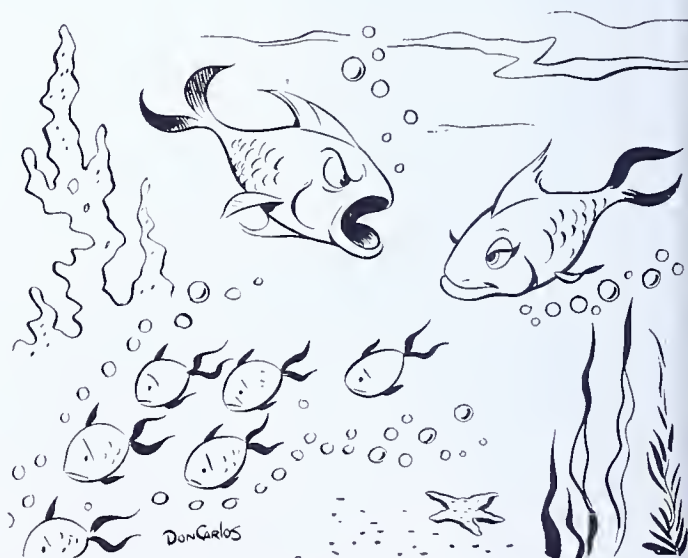
— A Sportsman's Prayer —

Dear God, help me to be a sportsman in this little game of life:
 I don't ask for any easy position on the team,—
 Play me anywhere You need me. I only ask for the help
 To give you a hundred per cent of what I've got.
 And if all the tough breaks seem to come my way,
 I thank You for the compliment. Help me to remember
 That You won't ever let anything come my way,
 That You and I, together, can't handle, and
 Help me to take the bad breaks as just part of the game.
 Help me to understand that the game is full of knocks
 Make me thankful for them, and help me to get so that
 The harder they come, the better I like it.
 Help me always to play square no matter what others do,
 Help me to study about the Greatest Sportsman that lived,
 And about the other great ones that appear in the Book
 And if they found out that the best thing in sport
 Is helping others, help me to find that out too.
 Help me to be a regular fellow with the other players.
 Finally, God, if fate seems to deal me a bad blow
 And I am laid on the shelf in sickness or old age
 Help me to take that as part of the game, too.
 And help me not to whine that the game was framed,
 Or complain that I received a raw deal.
 And when, in the fading dusk, I make that last hunt
 I ask for no lying, complimentary headstone.
 I'd only like to know, that in Your eyes
 I've been a pretty fair sportsman.

—Wildlife Crusader



"I see you got that salary raise."



"Stop screaming at the kids like a fish wife!"

REGULAR FISH WARDENS OF THE PENNSYLVANIA FISH COMMISSION HARRISBURG, PENNA., CORRECTED TO JANUARY 3, 1956

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W. W. Britton South Office Building, Harrisburg—Hbg. CE-8-5151, Ext. 2077
Home Address: 411 N. 4th Street, Lemoyne, Pa.—Hbg. CE-6-4385

REGULAR OFFICERS & ADDRESSES

<i>Name</i>	<i>Address</i>	<i>Telephone</i>
Abplanalp, J. Richard	R. D. 7, Mercer, Lawrence & Mercer County	524J13
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*Corbin, Harold	521 13th St., Huntingdon, Division Supervisor	1202
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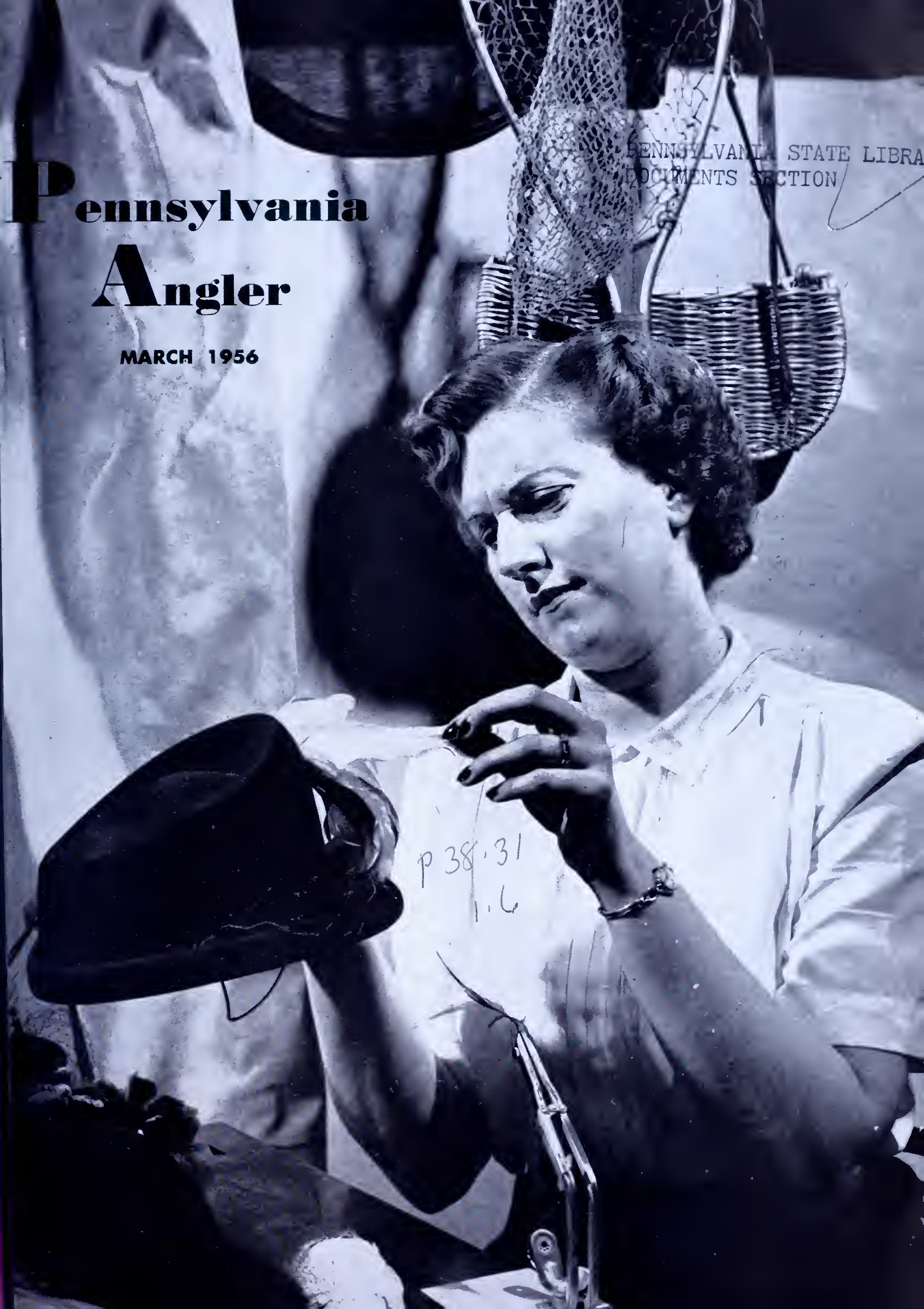
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Pennsylvania Angler

MARCH 1956

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1.6

G_{rass} . . . symbol of S_{pring}

“ALL FLESH IS GRASS, AND ALL THE goodliness thereof is as the flower of the field.”

In these words the Prophet, Isaiah, wittingly or not, summarized a fundamental biological concept; for, in truth, grass feeds the ox, and the ox nourishes man.

Green plants, only, are endowed with the ability to capture the energy of the sun, and to utilize it in combining carbon dioxide from the air with water from the earth in the synthesis of sugar, the basic source of energy for living things. Indeed, grass, as a symbol of vegetation, is essential for the maintenance of animal life. However, it is not my purpose here to expound either on the importance or the chemistry of photosynthesis. Let us, on the other hand, consider grass in relation to man, and to the land on which he dwells.

Grass in the temperate zone is one of the most widely distributed types of vegetation. Grass in its wild and cultivated forms is food and shelter for both man and animals. Grass is wheat, oats, corn, and rice; grass is forage, pasture, lawn, and putting-green. Grass in time will heal all man-made scars upon the land, rebuild the soil, restore beauty to a barren area.

John James Engalls, in 1872, paid enduring tribute to the grasses of the world:

“Grass is the forgiveness of nature . . .

Forests decay, harvests perish, flowers vanish, but grass is immortal. Beleaguered by the sullen hosts of winter, it withdraws into the impregnable fortress of its subterranean vitality, and emerges upon the first sollicitation of spring. Sown by the winds, by wandering birds, propagated by the subtle horticulture of the elements which are its ministers and its servants, it softens the rude outline of the world. Its tenacious fibers hold the earth in place, and prevent its soluble components from washing into the wasting sea. It invades the solitude of deserts, climbs the inaccessible slopes and forbidding pinnacles of mountains, modifies climates, and determines the history, character, and destiny of nations. Unobtrusive and patient, it has immortal vigor and aggression. Banished from the thoroughfare and the field, it bides its time to return, and when vigilance is relaxed, or the dynasty has perished, it silently resumes the throne from which it has been expelled, but which it never abdicates. It bears no blazonry or bloom to charm the senses with fragrance or splendor, but its homely hue is more enchanting than the lily or the rose. It yields no fruit in earth or air, and yet should its harvest fail for a single year, famine would depopulate the world.”

R. D. Burroughs

—*Michigan Conservation*

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521 13th St., Huntingdon, Pa.; Phone 1202

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By La Mar Mumber

George W. Forrest, Editor

1339 East Philadelphia Street, York, Pa.

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Yippee! It's Branding Time

(on the old Benner Spring range . . . that is)



COWBOYS don't wear hip boots . . .
They don't substitute a wood burning toy for a branding iron . . .

They don't use an anesthetic instead of the old fashioned lasso and "piggin' string" . . .

So, maybe technicians in the field of fisheries research shouldn't be labeled "cowboys," but they surely are doing some branding, using hip boot, burning tool and anesthetic.

Instead of branding cattle, however, they're branding fish.

The reason? An effort to find better ways of marking fish so their travels and careers may be followed easier in order to try to discover how to provide more and improved fishing opportunity for Pennsylvania's license buyers.

No final answers have been disclosed as yet, but progress has been made, and the experimental work continues, at Benner Spring research station, with Biologist Keen Buss doing much of the work, under the watchful eyes of Chief Biologist Gordon Trembley and Assistant Executive Director Albert S. Hazard, and with Consulting Geneticist James Wright of Penn State University often lending a guiding hand.

Something like four years ago, Buss began wondering why some of the techniques that have been used for more than a century in the western states in branding cattle might not be employed on fish in Pennsylvania. The idea wasn't entirely new; various methods, including the use of organic dyes, had been tried at various times and places. Somebody, years

ago, had put a brand on a gar in another state, and Buss picked up the idea and started experiments.

He began with a toy, one of the little hand operated wood burning gadgets that children, and grownups, used to employ a couple of generations or more ago in making decorative "God Bless Our Home" plaques with rose or dogwood borders, to hang on parlor walls.

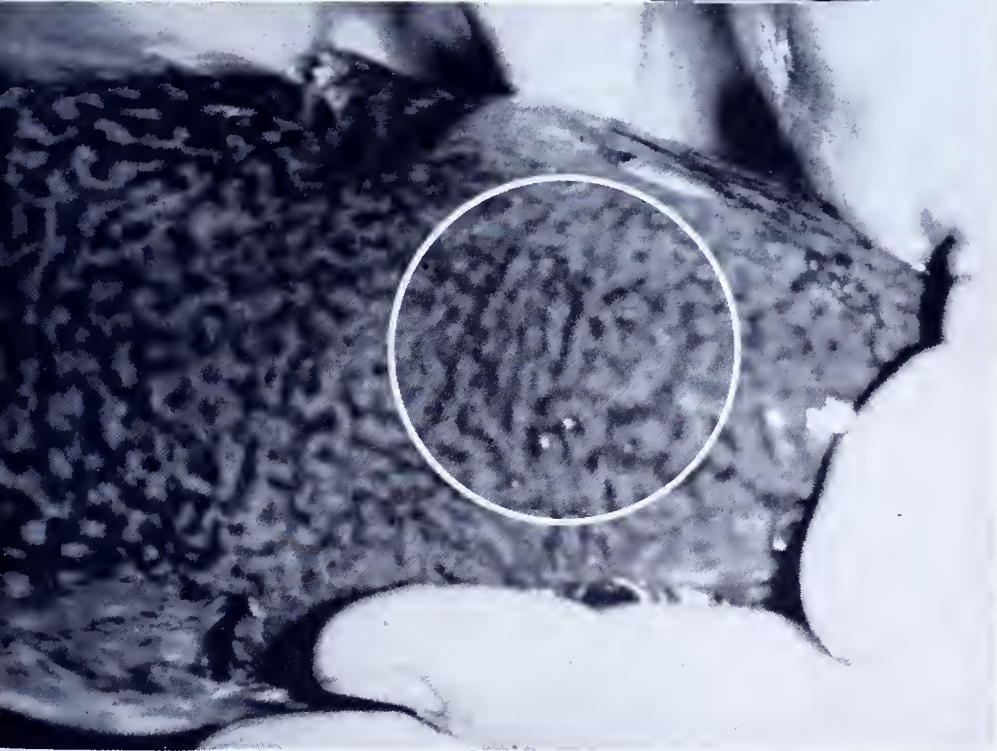
The experiment still has a long way to go, but the results to date have been encouraging enough to warrant further study.

Older methods of marking fish have been considered unsatisfactory for many reasons. Jaw tags are subject to a degree of loss, and they interfere with eating and respiration. Body tags of different materials may induce fungus growth, may become lost in nets, or may be torn off in the course of a fish's daily routine in a stream. Fin clipping has its virtues, but is more limited in applicability than fisheries researchers like or want.

So, the search for something new and better, which eventually swung around to a questioning look into branding might prove fairly simple, provided all the fish could be marked the same way, as cattle are. In the western livestock business a single mark is fine; it is merely used to identify a specific cow or steer as the property of a specific owner.

In fish marking, however, the idea is to follow the vagrant adventures of many fish, each of which should be marked differently, so that where a specific fish travels, or what happens

A BROOK TROUT BRANDED in the initial experiment November 7, 1951 shows a crude "X-12". Photo taken 15 months after branding.



FOUR YEARS LATER "X-12" still persists. Although barely discernible in photograph, brand is very evident when trout is in the water.

to it after it is stocked, may be followed, reported, noted and evaluated. This means each fish marked should be branded with a separate number or code.

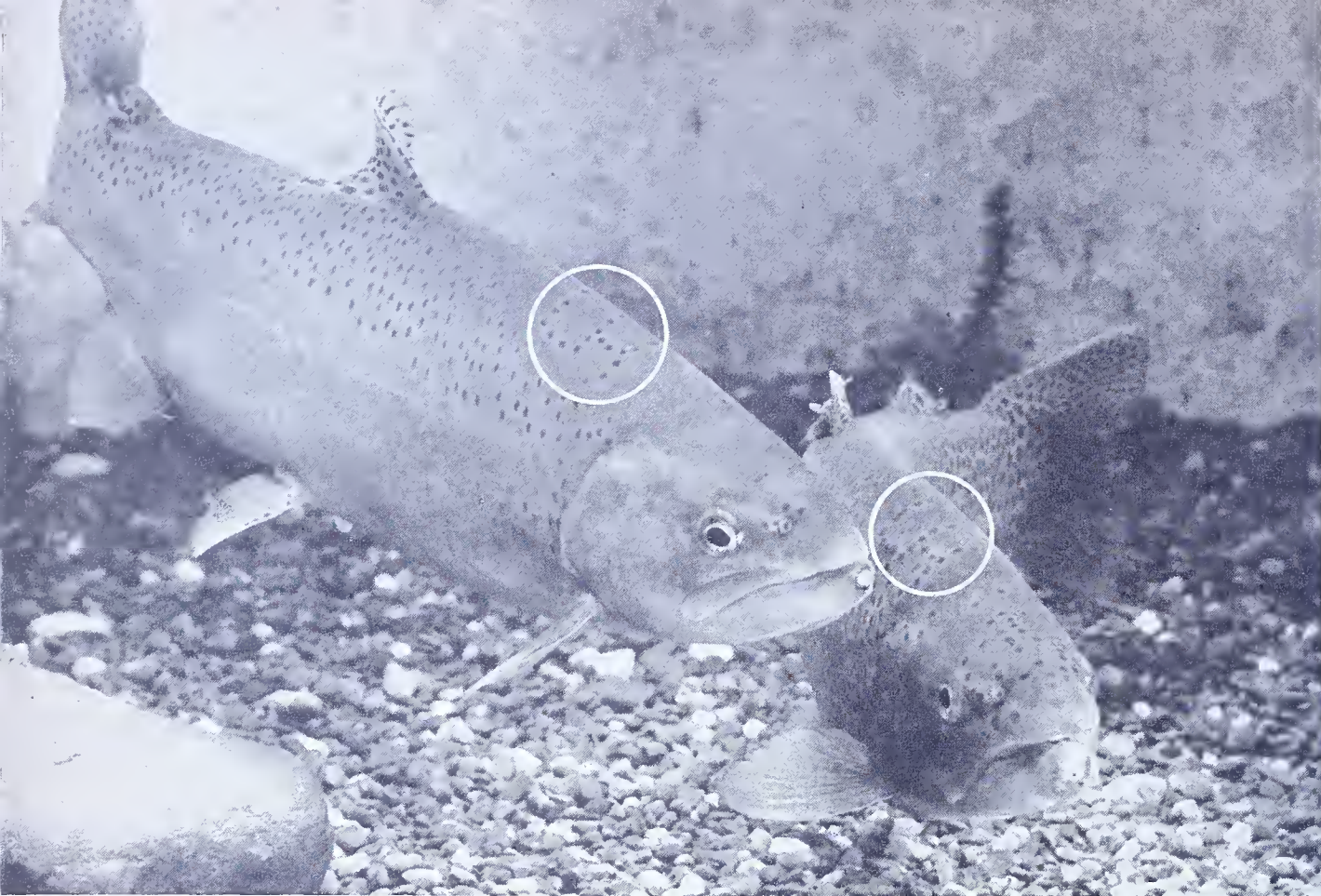
Michael Hudoba of Washington, D. C., national capitol editor of the magazine *Sports Afeld*, was being told of the problem not long ago, and tossed out an idea.

"Why not rig up some variation of a common little numbering gadget, with lettered and numbered reels, so they could all be heated simultaneously by electricity?" he asked. "Then, as each fish is marked with its exclusive code letter and number, the technician could press the lever and a new number would come up for the next fish to be branded."

The idea was so intriguing that it was passed along to the fishery researchers of the Commission, and something may come of it, although it is far too early to tell whether the idea is practical or will develop "bugs" putting it beyond reach.

This account, so far, may give some tender hearted souls visions of a red hot iron, of calves bawling in pain and distress, and of poor fish suffering tortures.

And that means the simple old branding iron can't do the job. It means that each fish must be marked slowly, laboriously, by hand, or that some inventive genius must come up with a bright idea of some newer and faster marking technique.

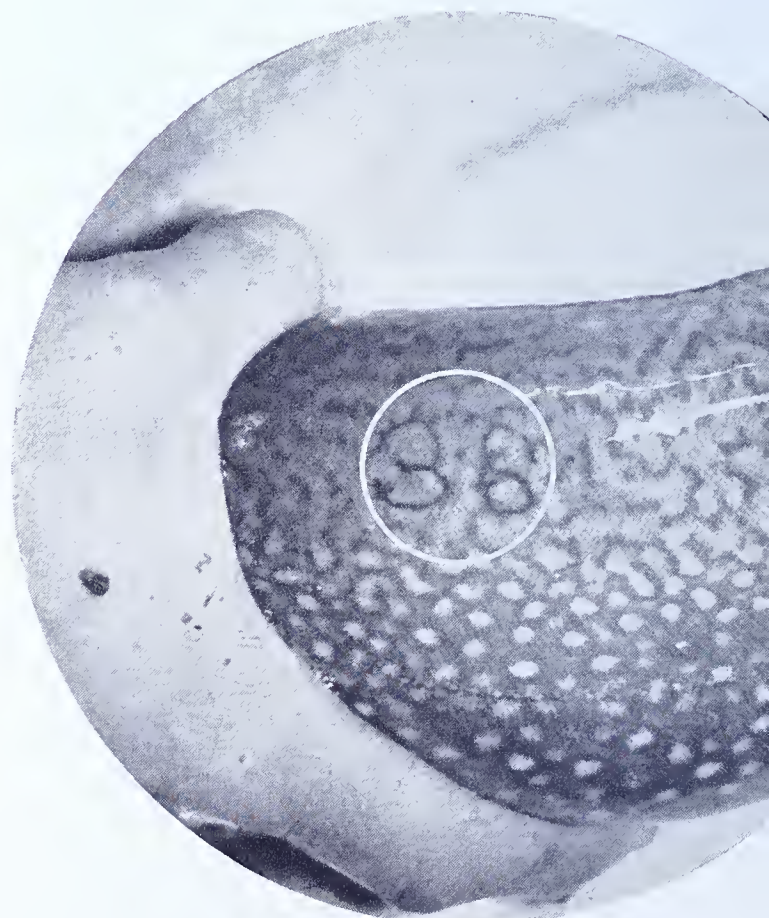


THE BRAND "LH" on the back of rainbow trout is made up of spots—a very striking contrast to the solid pigmentation of brook trout brand.

That wouldn't be the case, according to the best information obtainable, and according to modern techniques of fish handling. The fish would be put under light anesthesia, with the same effect as when a dentist gives a patient a shot in the jaw to eliminate the pain of drilling a hole in a tooth, but in the case of the fish the anesthetic would be administered to an entire lot of fish by introduction into the water in which they are held. The brand would be put on them, they'd be transferred to entreated water, and in a few minutes they'd be swimming about as lively as before, apparently with no memory of the incident and no lingering pain.

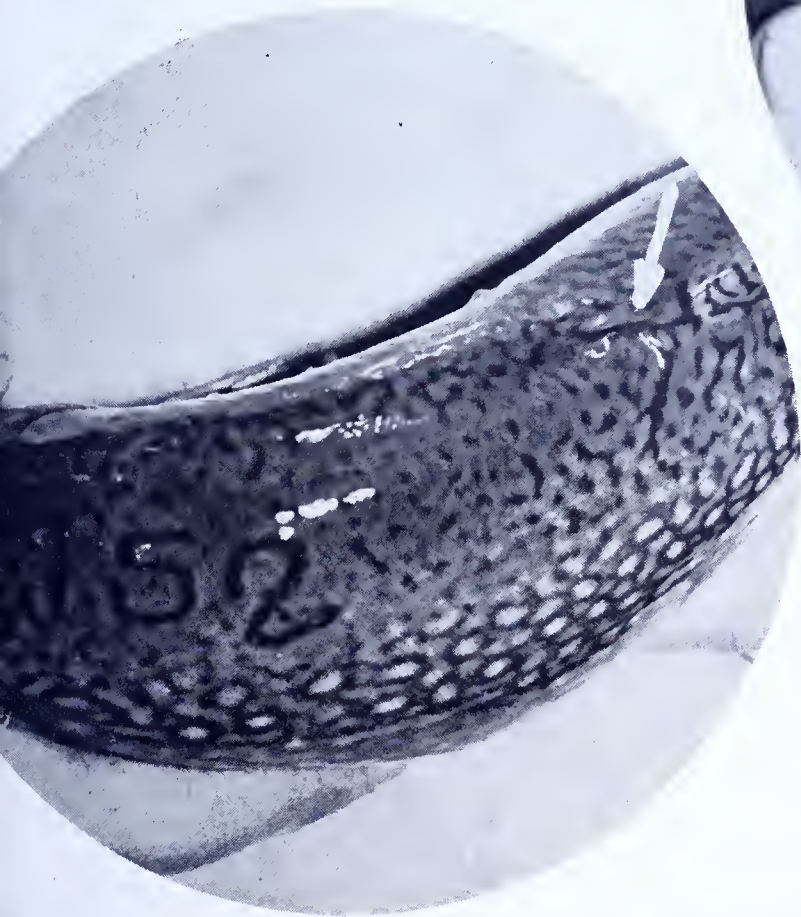
Now, much of what has been written here has not yet happened. Some of it, especially that part about devising some speedy way of fish branding, is still in the "think and talk" stage. However, it may come. It appears plausible and the Pennsylvania Fish Commission wants to see if it can be done.

Meanwhile, look at the pictures and see some of the results of the experiments to date.



BROOK TROUT branded "36". Resulting wound healed in fine line.

BROOK TROUT "152" had previously been tagged with nylon thread and a plastic tag at the anterior end of dorsal fin (arrow). The black "V" shape pigmentation is result of former wound caused by irritation set up by the nylon thread and tag.



"1-80" ON DORSAL SIDE of this brook trout is healed in heavier pigmentation.

BRANDS ARE READABLE, though the trout are resting near the bottom of a pond two feet deep.



People

and

Land



By **JUSTIN W. LEONARD**

Assistant Deputy Director
Michigan Department of Conservation

THE earth is productive. Its productivity staggers the imagination if we think of all the teeming life it has supported since life's creation. Yet its productivity rests on simple things: land, water, and energy from the sun.

Five billion years ago the earth came into existence, a tiny speck in the awesome stroke of creation which sent our galaxy and its millions of sister galaxies reeling through incomprehensible space. Yet this tiny speck of matter contained within it all the elements needed to build an amoeba or an elephant, a toadstool or a redwood, a pterodactyl or a man.

For two and a half billion years the earth has supported life in infinite variety, all resting on the simple but wonderful miracle of chlorophyll, the heart of the green plant, which can use the sun's energy and the raw elements contained in land and water to build the carbohydrate molecule.

But if the earth has maintained life through such changes and spans of time, why should the conservationist express concern? For that matter, why should he even exist? The answer

lies in man's new attitude toward the earth. And I use the word new advisedly, for it is only within the memory of most of us that this new attitude has arisen—the attitude that man's highest goal is to alter the face of the earth, and in doing so to ride over her roughshod, forcing her to his will rather than winning her consent.

From the first, man lived in close harmony with his environment. He respected the earth for her unfailing bounty. In pre-Christian times he worshipped her as a fecund and generous goddess, the Earth Mother. In historic, but still pagan times he revered her as the Great Mother of the Gods, under as many names as there were racial tongues—Gaea, Rhea, Demeter; Aphrodite, Cybele, Persephone; Isis, Astarte, Ishtar.

Through much of man's history, his demands on the earth's resources were modest in the extreme. They were, in fact, little greater than those of brute animals. Loomis has remarked that if we were to liken the half million years of man's existence to one man's 50-year lifetime, we could say that his first 49 years were spent as a food gatherer—as a hunter and fisherman, usually nomadic in habit—and that only last year did he settle down and learn to grow his food by cultivating crops and domesticating animals. On the same time scale the harnessing of steam power and the start of the Industrial Revolution happened only a day or so ago, and the common availability of electric power and the dawn of the Age of Atomic Power are developments of the moment.

To revert again to the normal time scale, it is only within the last two centuries that man has possessed inanimate power in a supply sufficient to let him think seriously of altering the face of nature, and sufficient to let him make significant inroads on the non-renewable resources—ores, minerals, fossil fuels—whose maximum abundance was established when the earth was formed. It is safe to say that man has made a greater dent in these non-renewable resources within the past 50 years than during all the millenia of his earlier existence.

The key to man's new and untried domination over nature is inanimate power—the power he commands at the touch of a button or

switch. Not only has it enabled him to exploit mineral reserves at a fabulous rate, but it has enabled him to feed the rapidly growing populations fostered by industrial civilization. In 1820, the average American farmer produced enough food to support himself and four others. Today he can produce food for 15 others.

No longer is modern man's productive capacity determined by the strength of his muscles. His intelligence, guiding the power of the machine, has increased his productive capacity so greatly that his working habits have been revolutionized almost within a generation. Now, almost within our own memories, the working day has dropped to ten hours, then to eight hours, and the work week from 60 hours to 40, with the 35 or 32-hour week an imminent possibility.

All this spurt in individual productivity, which makes so much leisure possible for so many, stems from man's new-found ability to exploit and process the earth's resources with unheard-of rapacity.

Nor, is this necessarily evil. Being men, it is logical for us to conclude that man is Nature's highest achievement, and that the wealth of her resources should be his. In that view, which most of us hold, resources have value only as they are of use to man.

There are two prominent schools of thought today, so far as our resources picture is concerned. There is the pessimistic school which views with alarm and with Cassandra-like croakings the rapid depletion of fixed reserves. And there is the optimistic school, the "Cornucopians," who cheerfully assure us that man's ingenuity will always keep up with population growth, that science will constantly find new ways to feed and clothe us.

The optimists are made chiefly of physical scientists and engineers, and there is much to warrant their optimism in view of new and ingenious technical developments.

Natural scientists, too, have contributed to the optimistic view by their work in developing new and higher-yielding strains of food crops and animals, better methods of producing, processing and distributing food products, and in developing techniques to make the desert fruitful.

Man has the cleverness to solve almost any problem—provided he has the wit to do so and to foresee the consequences as he moves. If he does not exercise this wit, the pessimists win.

Our mastery of material skills still far exceeds our ability to comprehend the outcome of the exercise of these skills. There is nothing original in this view—many pronouncements have been made to the effect that man, by unlocking the secrets of the atom, has finally encompassed the means of his own destruction—that he has discovered the power of the gods before he has outgrown the instincts of the jungle. This may be true, and if such fears are realized we need take no thought for the future. There will be no future, at least no material future we can foresee, if we are all blown to Glory in one spectacular atomic whoosh.

But granting that we do not blast ourselves to eternity in such a fine pyrotechnic display, there are still grounds for suspicion that our cunning exceeds our understanding.

It disturbs me that the Cornucopians, in outlining their reassuring schemes for feeding unlimited population growth from the bounty of the sea or the possible mastery of the secret of photosynthesis, make no mention of what kind of life this food will sustain. I am willing to grant that future generations may be able to keep soul and body together. But the vigor of the body means little if the soul is starved.

We have an army of highly competent specialists today, each making important contributions to our material welfare, but growing further and further from reality so far as fields other than their narrow speciality is concerned. Actually, we are all growing up to be specialists—whether we are of the comparatively small group that extends knowledge or develops new gadgets, or whether we are of the much larger group that earns its bread by pushing a button on a machine other men have designed. The very sweep of industrialization that gives us the highest material standard of living people have ever known draws us constantly further from an appreciation of and respect for the homely, everyday resources on which our lives still are based.

What chance has the urban-reared child of

today to appreciate the things that support him? For him, water comes from faucet. Milk grows in containers on the front steps. To get light, one flips a switch. For food, one simply picks up the telephone, tells a voice on the other end of the wire what is wanted, and presently food arrives, attractively packaged in cellophane. Can this child be expected to realize that land still supports us all? That no matter how cunningly we manipulate it, it remains land and subject to laws far older than man?

Every new technological development seems to bring with it some new use for land. And it is imperative that the specialist who develops the new use, and the populace who enjoy it, consider the effect of the new use on other uses equally important.

Agriculture's claim to land we all recognize. The appreciable areas occupied by our industrial plants are of course in good use. The aggregate area given over to highways and railroads and airfields and marshalling yards would surprise us, if we saw it added up, but we would agree it was in good use. So, too with non-urban housing, a comparatively new development linked up with our rapid means of transportation and our increasingly shorter working day. This is a development lightly industrialized states have yet to meet; but in the metropolitan area of southern Michigan, as in other industrial areas, it is a use definitely in conflict with other uses, notably agriculture. This use of land, too, is undoubtedly good in terms of a healthier, happier and therefore better population.

Where, then, if these uses are good, is there cause for critical comment? And what matter if these uses and other financially tangible uses preempt the land and leave nothing for the intangible, non-consuming use of recreation? The question hinges, I believe on the use to which we may put the new leisure our ingenuity has granted us.

Perhaps, as populations grow and occupy more land with their gainful activities, people will grow more intellectual, and be able to find necessary relaxation by turning inward with their own thoughts—an activity that would require only a square yard of space per individual. That time, however, seems far in

the future. Most of us seem yet to feel the pull of woods and waters, and on our annual vacations—and as much oftener as we can arrange it—we set out in search of solitude that grows ever more difficult to find.

Education is generally agreed to be the hope of the future. It seems to me that education in the works of nature still is as important in our development as education in the works of man. Nearly 2,500 years ago Plato said, "The works of the Creator must be good because the Creator is good." This statement I believe is still true. And education in the works of nature must be conducted in close contact with nature. Therefore it is our duty to insure that land is available for this use.

We cannot assign dollars and cents values to intangible values, by definition. And yet reservation of land for recreational use will cost us money. It may mean keeping good land out of food production, if non-arable land is not available. It may mean building a highway at greater cost, in order to reserve a less costly route for recreational use. It almost certainly entails preventing industrial plants from releasing destructive pollution into water and air. It may be as easy as authorization of recreational use for municipal water supply reservoirs, now often prevented by archaic laws

which modern sanitary engineering has outgrown. It may be as simple as the joint use of forest for both wood production and recreation.

Reservation of land for recreational use has been a part of our past history as a nation. There are signs that the pendulum may be starting to swing the other way. Everybody's business too often becomes nobody's business. In a democracy, government at every level is government composed of ourselves, to serve our own interests. I believe that it is very much in our interest, as individuals and as a nation, to insure everyone the means of getting back to nature now and then, to help keep our prospective, to make fruitful use of our new-found leisure, and to insure that when we alter the face of the earth we do so with calculated knowledge of the consequences, not in a spirit of blind and food-hardy exuberance. Our resources are capable of supporting an ever-increasing standard of living, but only if we manage them with understanding rather than by the easiest method of exploitation that comes to hand.

Antaeus, the giant in the ancient myth, was supposed to be unconquerable because he drew his strength direct from the earth. But Hercules lifted him away from the earth and slew him.

To wait until we know all there is to know about conservation before we do something for and about it is no more reasonable than a builder refusing to build a house because he doesn't know how to build a cathedral.

The trouble with folks who absolutely refuse to believe in the welfare and progress of conservation is that they put their rights ahead of their responsibilities.

A Teacher Teaches Conservation

By MRS. ERNEST HARVEY

TEACHING conservation projects in a rural school never needs motivation. Our boys and girls are thrilled with a pride in their heritage—their land—their country—filled with bountiful treasures; whether they be minerals, rich soil, plentiful streams teeming with fish, or forests resounding with animals and birds.

Perhaps this is a rosy picture of what we are now handing our boys and girls. There has been a change since pioneer days when the brave men and women with hope in their souls, built this great country. Our natural resources have not always been used wisely. Now the new pioneers of hope are our boys and girls—future builders—future citizens.

Rural teachers, perhaps more than others, realize the problems of conservation more keenly because we are living close to them. Many advantages and opportunities are open to us. Any project becomes interesting if children can see the need of it, observe its cause, secure knowledge to solve it, and participate in the actual work needed for its solution.

I am certain that most of us appreciate the very fine conservation stories in our many readers concerning the facts of erosion, preserving animal and bird life, protecting the forests, controlling floods and the diminishing water supply. In the discussion of these stories, we are able to give our pupils not only an interest in things, but an opportunity to see many

ways to correct the needs in their surroundings.

In other texts we find the similar accounts of conserving all our natural resources. We have the curriculum, bulletins, outlines, helpful ideas from 4H and F.F.A., and knowledge gained in the home by taking advantage of county agents' help and advice.

Most of all, I find that our science books meet the full requirements of our conservation curriculums and when added to all the information from other sources, will prepare the children for the many field trips and projects whenever a situation is timely. Such an occasion took place in my school last spring.

We had just finished a science lesson which stated that a million tons of soil is washed into the Gulf of Mexico every day. To make it more specific, it would take 7,500 big trucks, hauling one load every hour of the day, to move the soil brought in every twenty-four hours by the Mississippi River. Is it any wonder that boys and girls are interested in soil erosion? This thought, coupled with the idea that a spring thaw was in progress, caused our school to plan a field trip to our favorite gully back of our school.

This swale or run off area had proven very useful many times in our soil erosion study. After a hard rain we have taken our recess time, physical education period, or time before school began in the morning, to walk down

to the road culvert and study the loss of soil, measure it, and observe what soil types come at certain times.

We were especially interested in this spring study because we expected to find quite a change due to a new road through the run off area.

During the late fall our side road was raised many feet and deep drainage ditches were made on each side. It was too late to plant a cover crop of clover so naturally we expected to see many more types of soil in the "run off" from the little streams trickling down the sides of the drainage ditch. When we reached the culvert area, we noticed a heavy loss of clay, small stones and better grade of darker soil.

One alert boy said, "The clay soil from these ditches could be expected but what about this darker soil coming from the upper field? It's much more laden with rich looking soil than ever before."

Jokingly, a younger one remarked "Oh that is John's expensive fertilizer from the corn field. Bet the weeds will be big in this hollow next fall.

"Perhaps we should travel up the run off area to the top of the hill and find out more about this soil loss," said another.


"Bet I know," chimed a wiser one. "It may be due to the fact that farther up on the top of the hill, a clover crop was plowed up last fall."

Among other answers to the problem of heavy loss of soil was that cow paths leading into the cattle pass were now filled with trickling streams carrying silt. Others noted a need for a change in plowing and suggested catching gophers, also wood-chucks as they were so numerous. Water seeping into their run ways into the ground was undermining the field.

Realizing that all loss of soil, even to the huge amount mentioned in our text, had a very small beginning in some tiny ditch, gave a bright idea to us. Why not fill up the little ditches? Why not begin right where we are?

A thoughtful youth said, "What about that tiny ditch in our ball field? It's a hazard and we better practice what we learned down here in the gully and save our own soil. At the same time, we will be carrying out a safety measure."

"Knowledge," said quiet Mary, "is useless, unless it's put to work." We all agreed, but there was no time today because of other classes.

The next day we began building dams at intervals across our tiny ditch which proved to be wider and deeper as it progressed toward the road drainage ditch which is much lower than our playground. Dams were made by placing pieces of old discarded seats across the ditch. Their width and height were cut to accomplish just what was needed at each particular level. They were held in place by sharpened stakes driven into the ground. Where the slope was extra steep, we placed more dams as we wished to break the force of the water. At the very beginning we built a sod diversion dam in a  shape to spread as much water as possible over the sodded clover field. Where the stream emptied into the drainage ditch we placed numerous flat rocks to prevent deeper washings.

Someone suggested that we use our ash pile and all the raked up rubbish from the yard, to fill in along the ditch to check the force of the water and catch as much silt as possible. It was spring clean up time so our work became a double project.

We worked diligently for many recess periods but what a joy and happiness each child felt as it was a co-operative task with each child doing what he liked best.

Moreover, our project not only used knowledge acquired in many other lessons but brought about pleasure, co-operation, and a feeling of responsibility which will be carried over into adult life.

This September I was greeted by shouts of several boys and girls who were there early to inspect the dam. Before I had the car door opened, I could hear "Our dam held! It's growing over with a clover crop—more than twenty branches from each clover plant! Not even one dam was cut around or broken!"

Enthusiasm—yes! But appreciation of our great heritage, properly guided in conservation ideas will always awaken a great responsibility. Then our girls and boys can say with a greater pride.

This is Our Country!

By DR. CLARENCE COTTAM

Former Assistant Chief, U. S. Fish and Wildlife Service and now director,
Welder Wildlife Foundation, Sinton, Texas.

onservation an engineering partnership

AMERICA'S basic resources—her soils, water, minerals, forests and wildlife—constitute the basis of her wealth and greatness. Her security, progress and world influence are largely dependent upon the wise use and balanced development of these resources. Any nation is rich so long as its supply of resources exceeds or meets the people's needs. Under that, no nation can be self-supporting. Competition for the necessities of life induces a death struggle among peoples as among lower forms of life. Any one who questions this can, with profit, review the history of the causes of major world conflicts. The history of the peoples of such lands as Canaan, Babylonia, Persia, Carthage and parts of east Asia serve as good illustrations.

America has been more richly endowed by Providence with abundant natural resources than any other land on earth; yet the record indicates that we have been most prodigal in their use. Chief Bennett, former eminent head of the Soil Conservation Service, has repeatedly warned that one-fifth of our original tillable land has been so abused that it can no longer sustain profitable agriculture, and one-third of the remainder is seriously impaired. Four-fifths of America's original timber stands have now been cut, and last year we consumed nearly fifty per cent more timber than we produced. The extensive grazing lands of the West generally have been so overgrazed that the carrying capacity of most of them now are

perhaps only one-third to one-half what they were originally.

Conservation Values

Conservation is not just a sentimental hobby for nature lovers, deer or duck hunters, but serious business for governments and peoples generally. It simply means wise and sustained use of the resources God has given us. It implies the maximum sustained yield that will not impair the quality or quantity of our natural renewable resources. It does not mean non-use but a harmonious balance between man and his environment.

Fish and wildlife are among our great resources which must be preserved and wisely used. That America appreciates their value may be shown from the fact that during 1954 more than 14 million persons in the United States bought hunting licenses. Another 18½ million purchased fishing permits. Two and one-third million bought Federal duck stamps. Probably another six to nine million, who were not required to buy licenses, also participated in these all-American sports of fishing or hunting. In the pursuit of their favored sport fishermen and hunters spent somewhere in the neighborhood of five to nine billion dollars last year. The food value of the captured game probably ranged from one-half to one billion dollars. In addition, commercial fish harvests amounted to about four billion, four hundred

million pounds with a total value of about three hundred fifty million dollars. For animals add other millions in economic return. As great as are these economic wildlife values, I believe the esthetic and spiritual returns to America in more abundant living, better health, and keener appreciation will equal if not exceed the direct economic or monetary values.

The public demand for sport fishing and hunting is growing by leaps and bounds, and it is certain to continue—barring a National catastrophe such as war, and providing an adequate game supply and places to obtain or harvest the resource are maintained. The growth of this demand is shown from the fact that in seventeen years the number of waterfowl hunters increased five fold in the United States.

National Policy in River Basin Development

Because of the broad scope of our resources, multiple and often conflicting interests too frequently compete for their development and use. This often results in serious waste of the resource. For example, wasteful exploitations of agricultural, timber, or grazing lands induces erosion and destroys much of their basic value and results in impaired or limited public use of these lands for watershed, wildlife, and recreation.

America is expending billions in reservoir development and flood control. It is unfortunate that in the past many costly reservoir projects have been planned, constructed, and operated without consideration for the maintenance of fish and wildlife production. Long ago the public demanded a change in this policy. As an expression of this public sentiment and to implement this more enlightened concept, the Congress in 1934, and again by amendment in 1946, passed the Coordination Act (Public Law 732, 79 Congress) to "promote the conservation of wildlife, fish, and game." Experience has shown that there are loop holes in this law, so to correct these and further amend the Coordination Act, Senate Bill, S.2372, was proposed in the recent Congress. Even though time did not permit passage of this latest amendment which thereby excludes undeveloped river projects approved prior to 1946, the intent of the law, as it now stands, establishes the

National policy and philosophy that fish, wildlife and recreational interests are to be considered as full and equal partners in the planning of Federally sponsored and publicly supported multiple purpose water development projects along with power, navigation, flood control and irrigation. The Act provides that "Whenever the water of any stream or other body of water are impounded . . . adequate provision consistent with the primary purposes of such impoundment . . . shall be made for the use thereof, together with any area of land or interest therein, acquired or administered in connection therewith, for the conservation, maintenance, and management of wildlife resources thereof and its habitat therein. . ."

Through effective and close collaboration between State and Federal wildlife agencies, gratifying progress in coordinating engineering and wildlife aspects of river or valley development has been made in recent years. Even so, a great deal more needs to be done. There is sore need of closer integration with the planning and construction programs of the Federal engineering agencies. Wildlife values cannot be realized unless initial engineering planning considers this need and appropriately integrates this planning along with that of the engineers.



Cooperative Efforts in Obtaining Reservoir Values for Wildlife

The value of reservoirs for fish and wildlife depends upon many factors, including the physical and chemical conditions and characteristics of the reservoirs, the location, water depth and quality, pre-impoundment conditioning or treatment, availability of habitat including food and cover, and other necessary environmental conditions adjacent to them. Also it is dependent upon the mode and time schedule of water treatment, fluctuation schedule, and type of management including methods and practices employed in reservoir sanitation to control pollution, pest plants, mosquitoes, and other insect pests, and disease vectors. In short, the wildlife value of any reservoir may be altered immeasurably through proper coordination in planning and management. It is obvious, therefore, that in reservoir planning, construction, operations and management, it is imperative that the biologist and engineer work together.

In the past the greatest need and most difficult problem has been to get diverse and often unsympathetic, if not antagonistic, groups to work objectively and harmoniously together for the public good.

The situation today is vastly improved and many procedures have been found that benefit more than one of the diverse interests, or at least they do not cause appreciable injury to the other interest. Many notable contributions along this line have been made by research work conducted by many State and Federal agencies.

Water-Level Management

This technique has been used longer and more consistently perhaps than has any other method of malarial control. Depending upon the schedule of water fluctuations to control mosquitoes and related insect pests, it may be highly beneficial or extremely damaging to wildlife interests.

The raising of water level during the autumn months affords many acres of excellent feeding and resting areas for waterfowl. When water-levels are high, excellent refuge areas—as well as shooting areas—are provided in the South by

the inundated timber lands. Constant high water levels until early or mid-summer favor the growth of the better waterfowl food plants and it holds back most undesirable vegetation. A mid-summer draw-down often exposes extensive mud flats. A number of the more important waterfowl food plants, such as millet and smartweeds, grow in such a situation with a minimum of management. Agricultural crops such as corn, sorghum, soybeans, cultivated millets and buckwheat grown on exposed, dewatered, or drawdown lands, provide excellent waterfowl feeding when shallowly reflooded.

In many of the turbid, amber-colored or dark-water lakes and ponds, especially in the East and South, a summer drawdown affords perhaps the best opportunity for waterfowl food production. "Dark" waters seldom are very productive of fish or wildlife, and an appropriate schedule of drawdown may greatly favor both mosquito control interests and wildlife. A uniform rhythm of drawdown, or a drawdown improperly timed, may favor undesirable vegetation and be highly damaging to wildlife interests. A favorable drawdown or schedule of water manipulation may make the difference between a practically worthless or a very successful waterfowl area.

A minimum flow below the dam can be maintained by water withdrawn from the impoundment to achieve summer recession. Such increase in the minimum flow may greatly improve the stream for some species of fish. Maintenance of high water levels in late winter and spring provides many acres of overflow which greatly favor fish production.

Maintenance of a stable water level in so far as possible in early spring provides favorable water conditions for the spawning of the more desirable game fish such as bass and other centrarchids which spawn at this season in shallow water. The manipulation of waters, during the spawning season of less desirable fish, can be used as a means of control.

Dewatered areas are sometimes diked off from large impoundments in the serious malarial zone. In these areas the water is pumped out or drained off during the dry summer months and during the winters the waterlevel gradually rises. Agricultural and excellent wildlife food can be produced during the summer

and waterfowl especially find these attractive feeding habitats during the winter. In most plant and mosquito or other insect control the application of biological or naturalistic methods have proved most satisfactory.

Pollution

Pollution has too long been considered solely as a public health matter. The damage to wildlife, fisheries, and recreational resources by domestic and industrial wastes is tremendous and alarming. The pollution problem, as it affects public water supplies, and as it affects fish and other aquatic life, is by no means identical or uniform; consequently, abatement problems cannot be resolved by the same treatment or identical programs.

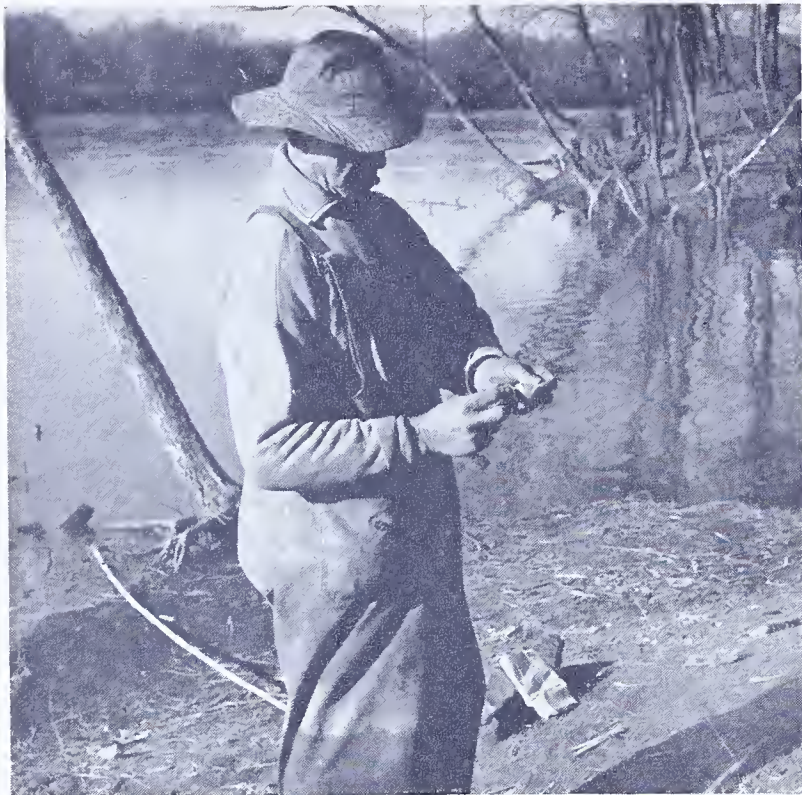
The serious and economically wasteful pollution problem calls for a more dynamic, affirmative program by industry and public generally.

Conclusion

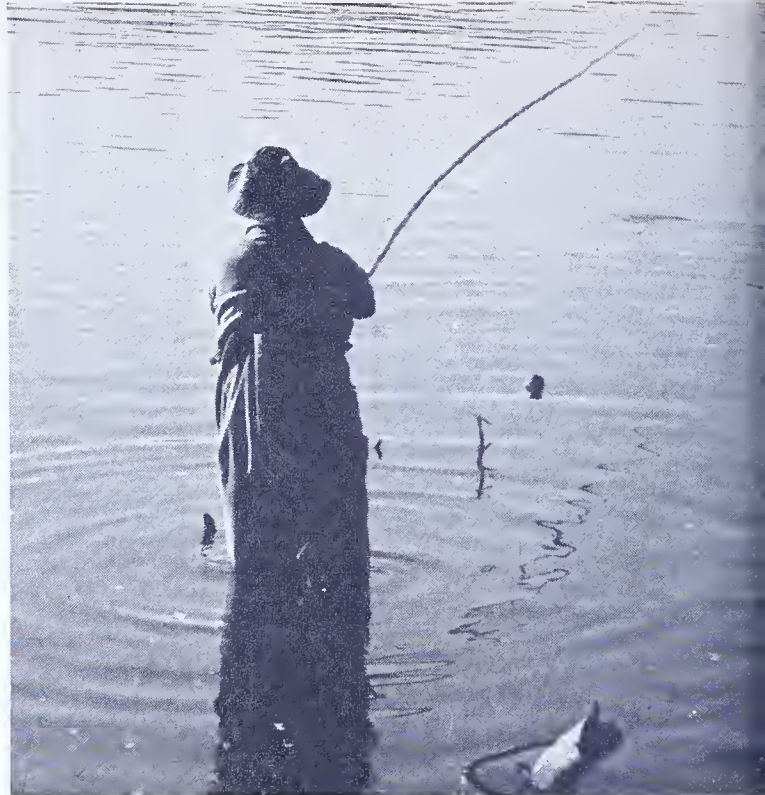
In conclusion I wish to emphasize that fish

and wildlife, as products of land and water, are influenced greatly by the manner in which these basic resources are developed and managed. With consideration commensurate with their importance, fish and wildlife have been greatly enhanced in value. Experience demonstrates the feasibility in a large measure of integrating fish and wildlife management with the use of water for other purposes, such as power, irrigation, navigation, flood control, and agriculture. For each agency concerned with water development to pursue an independent course, for each agency to provide only for those resources with which it is directly concerned, can lead only to improper use of our natural resources. There is much to be gained by working together and by so doing there is practically no loss of the objectives for which each group is seeking. In efforts to further the welfare of the people they serve, the Federal and State agencies must continue to work with construction or engineering agencies in preparing and implementing comprehensive plans for land and water use.





BAITIN' & RIGGIN' UP, early spring angler using worms, measures enough material from standard 10-yard coil of 3 to 4 lb. monofilament spinning line to reach from tip to butt.



CASTING OUT is somewhat awkward at first but with a little practice that long pole can swing for distance.



SNACK TIME between bites or a coffee break often helps. Here the angler is explaining how the light monofilament material aids in fooling the fish and how to swing a cane pole. If you doubt this method just give it a buzz. Not much style or finesse but plenty of results.

Styles in Sp

By

THOUGH fly, bait casting and spinning tackle have been the vogue in recent years, the old fashioned cane pole continues to remain in style for fishing Pennsylvania's lakes and streams. I seriously doubt if this ancient pole will ever become outmoded. A number of fishermen still cling to this old fashioned gear and have plenty of angling fun.

What prompted me to think the cane pole not antiquated centered around an elderly fisherman on the bank of the Susquehanna River. He handled two limber 16-foot cane poles expertly and was catching a heavy string of suckers and yellow perch. The old man baited the hook, heaved the line out into the eddy, then relaxed on a wobbly chair. But he had little time to relax. Repeatedly he jumped up, grabbed one of the poles and fought a three round bout with a kingsize sucker.

I was using a worn fly rod, rigged with an enameled line and leader. I found it difficult to face the fact that a fisherman equipped with a cane pole could out



FORKED STICKS are used for props. You watch the sensitive end of the pole for that sudden dipsy-do! Then, sit down and relax, wait for a sucker, perch or bluegill to take the worm.



HERE'S A BITE! That long cane pole bends plenty with a weighty fish. Since fish can only run the length of the line it is necessary to keep it swimming in a circle until exhausted.

shing

—with the old cane pole

IER

maneuver a fellow with a light trout rod even for spring suckers. But the old man proved it could be done. And he did it by substituting a thin three-pound test nylon monofilament spinning line for the usual heavy line. The length of thin nylon line tied to the tip appeared to be a silvery hair in his weathered hands. The connection between rod and bait was practically invisible and the worm wiggled naturally in the river current, unhindered by a heavy hook or line.

As I stood on the bank watching him lift a couple of nice fish ashore the long pole once became entangled in overhanging limbs. The pole's great length is a decided drawback, but the old man simply tore the line from the tree limb, left the baited hook and part of the line dangling in mid air. He produced a 10-yard coil of monofilament leader material from his pocket. Cutting a piece that measured three or four feet longer than the pole, he tied the new line to the tip. Two poles, a couple coils of leader material, a small wooden barrel holding a dozen hooks and



AND HERE'S THE FISH . . . but watch those overhanging limbs. If the thin line becomes tangled, simply tear it off and rig up a new length of leader material.

sinkers comprised his entire outlay of tackle. Valued at perhaps less than a dollar, he had no large investment in gear and was catching more fish than more elaborately equipped fellows on the river bank, including me. Besides he was having a whale of a lot of fun.

Other sucker fishermen nearby gave the old man's tackle the once over too after they watched him land half a dozen fish. I stood within hearing distance and overhead him tell one bystander how he used the same outfit for pickeral and bass. Substituting a heavier monofilament spinning line (about 8-pound strength) he told how he skittered minnows, frogs and strips of pork rind on weedless hooks, through lilies and beds of grass. The bait skimmed through the water as if un-

attached to a line. I heard him say that pike and bass smashed recklessly at the lure. Once hooked, the limber rod derricks the fighting fish straight from the water and onto shore or into the boat. If they are too big for this treatment, the pole is heaved into the water and fish allowed to pull it around the pond until exhausted.

All this adds up to the fact the old fashioned cane pole refuses to be cast aside or pushed into oblivion, by the newer styles of angling. Give the antique fishing pole a modern mist colored nylon spinning line and the outfit can take plenty of fish. It further bears proof that it's not so much the tackle, but the man behind the gear that counts.

Rods, Reels and Wheelchairs

In cooperation with the Pennsylvania Society for Crippled Children and Adults, Inc.

By **ALFRED K. ALLAN**



THERE was a time when physically handicapped persons were almost forgotten by society—but that attitude is changed and help has made, and is making, productive citizens out of them through the ministrations of the National and Pennsylvania Society for Crippled Children and Adults, Inc., and its 52 local societies covering 57 of the state's 67 counties.

Not only are they being made into productive citizens, but they are finding the services given them are making them feel there is a place for them in society, making them happy and even contented in their handicaps.

Many an able-bodied Pennsylvania fisherman has come across a handicapped angler along a trout stream or along the shores of a lake or river or creek. Not a few anglers have been at the veterans hospital at Valley Forge to see severely crippled war heroes—without legs or arms or with some other lesser crippling condition catching fish from a small lake stocked by the Pennsylvania Fish Commission for the enjoyment of these men who have given so much to their country.

Enormous strides have been made in physical rehabilitation which are helping crippled persons walk through the ministrations of the Easter Seal Societies, says The Pennsylvania Society for Crippled Children and Adults, Inc., Harrisburg, Pennsylvania, which points out there are 52 local societies covering 57 of the state's 67 counties.

Those societies, last year, gave services to more than 12,000 handicapped Pennsylvanians, the great majority of them being children. Those services, provided at the treatment centers conducted by the local societies affiliated with the State organization, have brought a great measure of happiness and usefulness to the handicapped. Their needs have been generously and scientifically cared for and the handicapped have been made to feel that they can develop a capacity for usefulness.

The annual Easter Seal appeal for funds, primarily through the sale of Easter Seals, begins in Pennsylvania March 10 and ends April 10. These seals will be placed in the hands of thousands upon thousands of Pennsylvanians and the revenue derived from them will permit the program of rehabilitation of the handicapped to go forward for another year. "The demands of the handicapped, says Joel B. Davis, Jr., president of the Easter Seal Society, "are growing each year and the services of the crippled children's societies must be extended. It will be extended", he continues, "in proportion to the way the people respond to the call for funds."

Thousands of handicapped fishermen throughout the nation are actively and successfully engaging in fishing. They offer both challenge and inspiration to every fishing enthusiast. This is especially true since they have overcome just about every disability imaginable and are today among our outstanding fishermen. How do they do it—their methods and success will surprise and enlighten you.

An armless Texas man, for instance, has accomplished amazing fishing feats by letting his feet do the work ordinarily done by his hands. He has also made remarkable use of two special hook-like gadgets. The special working hooks are attached to his rod far enough up so that he can give a good yank whenever he gets a bite. The end of the pole is securely anchored under one knee. When a fish is caught, he can jiggle the rod until one of the special hooks opens, thus releasing snared fish into his basket.

The baiting of the hook is an even cleverer operation. He uses one special hook as a vise to hold the regular fish hook in place, then with the other special hook he can thread the bait onto the fish hook.

Special "gadgets" like this one have of course become a necessity with most seriously handicapped fishermen. Fishing equipment manufacturers have not been slow in fulfilling this need. They have come up with everything from special clamps, especially useful for fishing from wheelchairs, which attach the rod to a person's body and make the steady holding of a rod much easier, to developing a new kind of rod and reel for use by blind fishermen.

In the last instance small silk inserts have been placed on the line each one at ten foot intervals. A sighted partner stands by to give the blind fisherman his directions and to tell him the distance for casting. By listening carefully to the clicks of the inserts as they pass up the rod the sightless sportsman can hit the right fishing point with great accuracy.

A number of state governments have begun to take a special and important interest in the plight of disabled fishermen. In New York State a model law is in effect which grants to patients at veterans facilities, tuberculosis hospitals, and veterans rest camps the use of the state's fishing points without the need for a license.

Other states have issued free licenses to disabled persons, and have otherwise aided such people.

A short while ago the Connecticut State Board of Fisheries and Game completed a project which has been hailed as an outstanding advancement for disabled fishermen. A series of special ramps and platforms were constructed along the 1,500 foot stretch of the Blackledge River at Marlborough, Connecticut. During each fishing season sportsmen in wheelchairs congest the area, making grateful use of the convenient ramps and platforms built for them. This project has proven so successful that the Board is now at work on plans to establish similar facilities in the western part of the state.

Added to these state government endeavors is the equally meaningly work being done by federal agencies, civic groups, charitable organizations, labor unions and the like to aid and encourage "wheelchair fishing."

In the forefront of this work is the Veterans Administration, often in cooperation with the American Red Cross. Fishing participation programs have been established at many of the veterans hospitals dotting the country. As the manager of one hospital states, "The medical staff considers fishing to be excellent recreation for patients!"

The results of these programs have often been phenomenal. On an opening day of the fishing season at Grand Junction, Colorado, V. A. Hospital, the disabled patients taking part in the hospital's program emptied the nearby lake of 171 rainbow trout. At other V. A. hospitals, notably the one at Murfreesboro, Tenn., fishing instruction classes have been established and enthusiastically received by the patients.

At Palo Alto, California, V. A. Hospital a patient's entire physiological attitude was radically changed for the better because of the hospital's fishing program. Moody and despondent because of his disability, the



man had for many months refused to speak to anyone at the hospital. One day he was invited to join some of the other patients on a fishing trip. Half-heartedly and after considerable coaxing he accepted. However, once aboard the fishing boat a decided change was noticed in this man's behavior. He watched the activity with eager eyes. Midway in the day, he observed another patient frantically trying to bait his hook. Cautiously he approached the other patient. "You're doing that wrong," he said in a friendly tone, "Here, let me show you how to do it." It developed that the man had been an excellent fisherman. Coming back to the sport was just the tonic he needed. The trip served as the opening wedge to break his long silence. Soon he was deeply engrossed in conversation and fun-making with the other patients. From that day on his health improved rapidly and he was soon able to return to normal life again.

The 52 Association, a nation-wide group dedicated to enriching the life of wounded veterans, has likewise enlisted its facilities for the encouragement of "fishing for the handicapped."

Their New York Chapter, taking the lead for the nation, supervises the running of weekly fishing trips. From 25 to 30 disabled patients from nearby hospitals participate in these programs. To date 3500 disabled

persons have been fashioned into accomplished sportsmen through 52 Association efforts.

From their experience in this field, the Association has set down these basic measures as a guide to any person or group desiring to integrate handicapped people in any of their fishing trips.

1. Take all necessary safety precautions.
2. Don't overload the boat.
3. Don't press or otherwise unnecessarily trouble the captain.
4. Provide a covered area for blind fishermen in order to avoid the harmful effects of the sun on them
5. Provide the regular and special fishing gear for them.
6. Also provide foul weather gear for them.

All of the groups participating in these country-wide programs for handicapped fishermen are convinced that fishing is an excellent sport, both from a recreational and healthful standpoint, for a disabled person to take part in. Their experiences have also shown that the disabled can rival and in a number of instances even top the success of the unhandicapped fishermen.

A short time ago, a man, taking part in a 52 Association fishing trip, bagged 41 flounders. This man, incidentally, was totally blind!

Trimming a few whiskers

By HANK ROSEN

FOR catching catfish there are many methods and usually the best way is the one that produces best in that locality. I have seen cattys caught on plug, spinning and fly rods. I've even had them hit a plug while casting for bass. In the south, salt water tackle is used on the big blue-cats and on many occasions I have seen big cats brought in at Connovingo by heavy tackle men.

However, generally speaking, the same tackle may be used for catfishing as is used for taking other species of fresh water fish. A line of 12-18 pounds test is preferred to smartly break away from snags when caught on the bottom. This will be discussed at further length under "Riggings".

BAITS

Under this general heading could be listed many different products and concoctions which will catch fish at given times. Some of these are commercially

marketed and have been used with good success. However, Mr. Whiskers is not so high-class, as to insist upon the manufactured article. Here are some baits which may easily be made or obtained at virtually no cost. The first is the much loved (by cats) though foul smelling "ripe" chicken entrails. A popular version of this bait goes as follows:

Place the entrails of two chickens in a quart jar (wide mouth type) to these add 4 or 5 tablespoons of salt, three ounces of vinegar (many prefer cider) and about the same amount of water. Close not too tightly and place in the hot sun for several days. After this has cured sufficiently, you will know it by the odor when opened. If it has not become really odoriferous, place it back for more of the same treatment. If the weather is such that there is not sufficient heat outdoors, as in the winter, placing it near the heater or a radiator will be an adequate substitute.

When thoroughly cured, it may be closed tightly and placed in a refrigerator and used as needed.

Another home-made bait which works well is the blood type bait. This bait, while good, is often best made outdoors in the summer. Its smell will keep it out of your wife's kitchen (at least it does mine). The ingredients are easy to obtain. Get about one pint of liver blood from your butcher (ask him to save it) and one cup of corn meal. Place the meal in some netting (your wife's old nylon stocking is fine), then place into boiling water as you would in making a dough bait. When the meal begins to get firm, take it out of the water and knead one half of the blood into it. After adding the blood break the bait into pieces about the size of a quarter, drop these into just enough boiling water to cover (about 2 inches) the dough. When the pieces have hardened to the consistency of rubber, take them out, place them in a jar, and then pour the remaining blood over these dough balls. Cure these in the sun for several days and use as needed.

While the two aforementioned bait-types are most effective, all too often the casual Catty-Fisherman does not want to be bothered by having to prepare his bait well in advance. For these men fortunately there is a host of baits available. These baits are widely used and very productive. Pieces of fresh peeled shrimp about the size of a finger joint are praised most highly by lower Schuylkill River fishermen. Any kind of fresh red meat can be employed, although diced-up pieces of fresh red liver rank highest here. The worm fisherman doesn't have to feel slighted though, because the catty will accept the garden hackle with much gusto.

In the final analysis, we see that the cat fish is not too choosy about his food; he'll eat many things spurned by most other fish, from dough balls to liver-wurst and help keep the bottom clean at the same time.

HOW, WHEN AND WHERE

Our common bull-head, be he white, black, brown or yellow, is primarily a bottom feeder and as such, plays an important role in keeping our water clean. He acts as a scavenger, spending a great deal of time moseying about the bottom in search of adequate food. He is most at home over a soft type of bottom where he can obtain the food he needs from a soft bottom, whether composed of mud, mulch, or rubble. He loves the quiet water of lakes, the slow moving back water areas of streams and rivers, where he can quietly go his way. Most fishermen swear the hours of darkness are best for Cats. However, while the night hours are productive, I have caught as many in the daytime. The catching of many catfish at night then throwing them away the next day because the neighbor doesn't want them is the worst kind of poor sportsmanship and is robbing both nature and oneself of future pleasure. Summer time, seems to be the only time when more men fish at night for them than in day. Possibly because it's cooler at night, more pleasant to fish.

Catfishing is bottom fishing and as such calls for a bottom fishing technique. The bait is cast out towards a suitable spot and allowed to remain there. A signal is usually given the fisherman by the catty in the form of light taps. These are best recognized by a slight jumping or tightening of the line. A useful aid



in recognizing bites is the use of a Bite Clip.

A point to remember is not to be too quick in setting your hook. The catfish usually nudges the bait several times before mouthing it and then swallowing it. For that reason many men feel they have no success in cat-fishing because they feel the bite. Actually they didn't feel a bite, but merely the preliminary.

RIGGINGS

The terminal rigging for cat-fishing may be plain or fancy, but there are several points to remember.

1. Catfish have large mouths, so any hook 1/0 or smaller may be used, although many men prefer sizes 2-4 and 6 with a slightly turned out back.

2. Since the lead sinker can foul on the bottom easily, two things can be done to lessen this:

- a. Use a snagless type flat sinker.

- b. Attach the weight to the line by using a short length of line or lead or with a weaker test than the actual line itself.

3. The line should be passed through the eye of the sinker rather than directly to it, unless using the off-key rigging. This allows the fish to mouth the weight of the sinker.

Yes, the Cat-fish is a pain in the neck to those who don't know him, and a pain in the hand to those who handle him incorrectly, but as for me and all of us who intently fish for him, we like Mr. Whiskers!

If we cannot live our philosophy of conservation that others will notice it with favor and want to try it themselves, then there is little use in our preaching it. . . .

—GWF

Putting Pennsylvania on the Map

By DR. RICHMOND E. MYERS

Dean, Moravian College, Bethlehem, Pennsylvania

ALL sportsmen use maps. Few realize how ancient maps really are. Man has always been making maps. Today several million dollars worth are published every year, to be sold or given away to a hungry map-conscious public.

Actually man made maps before he learned the art of writing an alphabet. The world's oldest known map (now in the Semitic Museum at Harvard University) is on a clay tablet which was excavated by a Harvard expedition about 200 miles north of the site of ancient Babylon. It is believed to be 4500 years old.

That, however, is a long cry from Pennsylvania. As far as the New World itself is concerned, the first true American map is that made by a Boston printer in 1677. He drew, carved, printed and published this map (of New England) as a crude woodcut, but just the same, a very authentic bit of Americana.

Of course charts and maps of America had been made by European explorers and soldiers before this date, but these were American in subject matter only, having been engraved and printed abroad. Still, it is to such maps that we must turn to have a look at the first cartography concerning Pennsylvania.

In 1569 the famous world map by Gerard Kramer, better known as Mercator, showed the Pennsylvania Appalachian Mountains under the name of "Apalchen." This was the first time these mountains were indicated on any map, and given a label that resembles their present name. At least by the mid 16th century, a major physical feature of what is now Pennsylvania was on the map.

The first map delineating any specific area of Pennsylvania was published in Stockholm in 1654. It was the work of Peter Lindstrom, an engineer who had come to New Sweden and undertaken to make a map of the colony. His map showed unusual detail along the lower Delaware River and its tributaries. His calculations of latitude were correct, but his longitude was inaccurate, a common fault among early map-makers.

When William Penn acquired Pennsylvania, he naturally was interested in having his colony mapped. His first surveyor general, Thomas Holme, undertook that assignment, and produced two maps, one of Philadelphia in 1683, and the other of the province in 1687. These maps were made in part for promotional purposes, because Holme had more than a surveyor's interest in the land. He was an original land-owner, a member of the first assembly, and a very active fellow in political affairs. His maps are of more value in showing land avail-

able for purchase than anything else, but we must remember that was their purpose, and they were splendid instruments in the land office.

Undoubtedly the name of one man stands out above all others as the top cartographer of colonial Pennsylvania, if not colonial British America. This was Louis Evans, referred to by Peter Kalm in his "Travels" as, "that ingenious engineer." Evans came to this country from Wales at an early age, and made a map of the region involved in the Walking Purchase the year after that hoax was perpetrated. This was in 1738. It was the first of a number of cartographic masterpieces produced by this man who knew the country he depicted intimately, not only as a geographer, but also as an interested all-round scientific observer.

He is best known for his map of "The Middle British Colonies of North America," dated 1755, accompanying which was a 32-page pamphlet titled "An Analysis of a General Map of the Middle British Colonies." This treatise listed his sources and contained a detailed account of the geography, history, and even geology of the area.

Evans was in a sense truly Pennsylvania's first cartographer for although not a native, he grew up in the colony and knew it well from his personal experience. His maps are covered with much data in the form of text material, and one can well spend an evening enjoying any one of them.

Two men by the name of Scull now enter the picture. N. Scull, surveyor general from 1748-1761, published his "Map of the Improved Part of Pennsylvania" in 1759. His grandson, W. Scull, improved on this map in 1770. Both the Scull maps are more accurate and show the frontier country in more detail than Evans, but they lack the interesting text.

Although not considered a colonial cartographer, Reading Howell's work must be mentioned. His splendid map of the state, dedicated to Governor Mifflin, is the first which shows all the boundary lines as we know them today. It was dated 1792, and might be considered the first official map of Pennsylvania, the commonwealth rather than the colony. Its depiction of the streams of the state is remarkable. When one considers the difficulties encountered by these early map makers in covering the territory they mapped, the immensity of their work becomes obvious. Cartographers had to get around on horseback or on foot. Often there were no roads to follow, but mountains and thick forests apparently were no obstacles. Howell's map

does such a splendid job in locating the streams and rivers, that the only improvement in today's maps is that of additional data. It is interesting to note that at the time this map was issued, there were only 21 counties in Pennsylvania.

Many other maps of Pennsylvania have followed. Today we can secure excellent examples of cartographic art in any gasoline station for the asking. It is a long cry from the work of Lewis Evans to the quadrangles of the U. S. Geological Survey that are, or should be, familiar to all sportsmen. There are still no better maps of the back country available to the general public than these topographic sheets which now cover the state, and which are continually in the process of revision. A fine description of these maps appeared in the November, 1955 issue of the *PENNSYLVANIA ANGLER*.

As to the old maps, we have not presented a complete list by any means. There were those of the French map makers whose sphere of interest lay west of the Alleghenies. There were several maps made by cartographers in Virginia, Maryland, or other colonies, whose work carried them over the line into Pennsylvania. Those we mentioned we can truly claim for our own. If you are interested in seeing their work, the Historical Society of Pennsylvania in Philadelphia, has the original maps on file. Excellent copies of most of these maps were published with the Pennsylvania Archives and if you are lucky, you may pick up a second hand copy of one of these life sized copies in a second hand book store. They can be mounted or framed, and make excellent decorations for any library, den, or sportsman's room.

Keeping earth-worms for bait

A RECENT bulletin of the U. S. Fish and Wildlife Service contains some useful information on keeping and raising angleworms for bait.

For raising worms outdoors, the Service advises the use of wooden boxes, 14 by 18 by 6 inches, stacked together but held apart by small blocks. This arrangement in tiers provides ventilation, drainage and easy access for watering. The boxes should be supported above the ground on a base about 6 inches high. When a box is set flat on the ground the wood rots and worms may escape and burrow into the ground.

Material for filling the boxes may be one part stable manure, one part screened topsoil and one part peat moss. A sprinkling of corn meal or mash may be added. If mash is used, the proportion should be about $\frac{1}{2}$ to 1 pound for each cubic foot of filler material. If corn meal is used, about $\frac{1}{2}$ -pound for each cubic foot of material is sufficient. The mash or corn meal provides a ration of carbohydrates, proteins and fats for the worms so that they will be well-nourished. In order that the mash or corn meal can be uniformly distributed, it should be added before the other material has been wet.

A layer of alfalfa or other hay should be placed in the bottom of each culture box. This improves drainage, prevents the compost from adhering to the bottom of the box and is favored by the earthworms as food. Each box should be about $\frac{2}{3}$ full of the prepared culture material. Five hundred breeder worms should be placed in each box and covered lightly with the culture material. One or two thicknesses of well-soaked burlap should then be placed in the box to conserve moisture and keep the surface of the material dark and damp. The worms should be watered once or twice a week, the time depending on the weather and temperature. In watering, a gentle sprinkling is necessary so that the surface of the culture material will not be disturbed. The food supply in the box should be checked from time to time. This is done by lifting out and examining a handfull of soil. A satisfactory food for supplementary feeding consists of five pounds

of commercial rabbit food (pellets), one pound of soybean meal and one pound of sugar. The pellets, meal and sugar should be moistened to form a soft, crumbly mass, then stirred into the culture material. The worms will also thrive on foods such as kitchen and garden waste, fruits and vegetables.

Basement Wormery

For raising angleworms indoors, a wooden box about 3 feet long, $2\frac{1}{2}$ feet wide and $1\frac{1}{2}$ feet high is recommended. Remember to seal the seams of the container so that the worms cannot escape. The top of the box should be fitted with a frame covered with hardware cloth. Having the frame hinged to the box and fastened with a small screen-door hook makes a very convenient setup. Several small holes should be drilled in some part of the bottom of the box for drainage. The holes should be covered with fine-mesh copper screen that is tacked to the container. If the worm box is in such a place so that it cannot be drained, place small cans under these holes to catch water. If the culture material has excessive moisture that cannot be drained it may sour and kill the worms.

The preparation of indoor cultures is the same as for outdoor boxes. The same feeding and watering procedures also apply.

About 21 days after stocking the worms may be ready for harvest. Dump contents of culture box on smooth table and rake material into cone-shaped pile. Give the worms a few minutes to work down into the pile and then begin raking material from the tip of the pile and replacing in box. This is the material that will have a lot of egg capsules and should be placed in a newly prepared box.

Culture boxes should be kept fairly dark, as earthworms work in darkness. Boxes should be moist but not soggy.

When worms are being used on the lake or riverbank, try carrying them in a small cloth sack filled with sphagnum moss. Dampen sack whenever necessary.



Fish Commission Has New Land Aquisition Policy

The Pennsylvania Fish Commission has established a policy that in acquiring lands for the construction of new public fishing waters, every effort is to be made to avoid the purchase of fertile agricultural acreage.

In announcing the policy, Executive Director William Voigt, Jr., said:

"The Commission felt this new policy was in keeping with sound modern natural resource conservation thinking.

"It is true that this country still is in an era of agricultural surpluses, but the lakes to be built are expected to last for many decades, and no one seems able to guarantee that surpluses will be with us indefinitely. Therefore, it appears to make good sense to believe that fertile farm lands should be avoided so far as possible, and attention concentrated on seeking areas of low agricultural, and forest, fertility.

"The Commission likewise wishes to center its future lake building efforts as much as possible in depressed areas, and in areas where the local people have the least present public fishing opportunity.

"In seeking sites for a backlog of future construction operations, the Commission looks for specific things of importance in the program. Sites should be free of present pollution. Mineral titles should be clear, to assure there will be no future pollution threat from mine or other wastes. The watershed should be under such good conservation management that siltation of the lakes, from unnecessary erosion, will be at a minimum. In addition, there should be relatively little disturbance of existing community utilities and facilities, such as roads, transmission lines of various kinds, churches, cemeteries, and so on."

At its meeting in January, the Commission approved the construction of two new public fishing lakes, at the Dutch Fork site in Washington county, and at Lower Woods Pond, in Wayne county. The latter will be an enlargement of an existing lake.

The statement said further that the Commission will ask in all cases that supervisors of townships involved, and other authorities and civic leaders, assure that the areas immediately surrounding new fishing lakes be properly zoned to guarantee there will be no undesirable developments tending to reduce the usefulness of the lakes for healthful outdoor recreation by family groups.

"Guide to Horse-shoe Trail" Now Available

If on an outdoors jaunt in southeastern Pennsylvania you spot a yellow horseshoe or a yellow paint blaze on tree, post, rock or stake, you are on or crossing "Horse-Shoe Trail"—a 116-mile, high-ridge hiking or riding route between Valley Forge and Rattling Run Gap.

The trail is completely documented and mapped in a "Guide to Horseshoe Trail," which calls particular attention to numerous way-points of historic interest. The publication also includes listings of accommodations along the trail's meandering course through five counties—Chester, Berks, Lebanon, Lancaster and Dauphin. And those accommodations are for man or beast, depending upon whether the travelers are on horse-back or afoot.

The "Trail", in total or in part, is both a challenge and opportunity to anyone with a bent for an unspoiled outdoors. The "Guide" is made available by the Horse-Shoe Trail Club, Inc., Ardmore, Pa. Price—Seventy-five cents.

Top Fish Commission Officials to Speak at POWA Spring Banquet

William Voigt, Jr., executive director of the Pennsylvania Fish Commission, and Dr. Albert S. Hazzard, assistant executive director, will be the speakers at the Spring Banquet of the Pennsylvania Outdoor Writers Association on March 24 to be held this year at the Officers Club, New Cumberland Depot. They have suggested a question session so that writers, radio and TV men vitally concerned with conservation problems can propose questions to the speakers. Tom Darlington, Bob Reed and Tom Forbes are in charge of arrangements for the dinner.

Koozer Lake Open to Bait Fishing in '56

The Pennsylvania Fish Commission has announced that contrary to an earlier report, Koozer Lake in Somerset County will be open to bait as well as artificial lure fishermen this year, but that the creel limit would be two trout per day instead of the statewide limit of eight.

After the 1955 fall spawning season, a number of large trout, previously used as brood stock in a Commission hatchery, were planted in the Lake. And since Koozer is a small body of water, it was felt the creel limit should be kept low this year to spread the fishing among a greater number of anglers and over an extended portion of the season.

The Commission explained that Koozer Lake previously had been incorrectly listed among state waters, which this year are planned for fly fishing only.

In Pennsylvania

First Fork Dam Near Sinnemahoning Completed

The huge First Fork Dam, located near Sinnemahoning, in north-central Pennsylvania, is now completed. Secretary Maurice K. Goddard, Pennsylvania Department of Forests and Waters, announced today that engineers have been assigned to commence an extended series of tests, preparatory to the initiation of full usage of the dam.

Rising to a maximum height of 164 feet, the dam is 1,420 feet in length. The Flood Control Division of the Department of Forests and Waters revealed that the newly created lake will have a capacity of 24.5 billion gallons of water and cover over 1500 acres. Commenting on the values inherent in this project, Secretary Goddard said, "The flood protection afforded by impounding billions of gallons of excess water during periods of excess moisture, will also provide recreational facilities."

During the testing period, the reservoir will be filled to a pool level of 965 feet above mean sea level. It is planned to test the gate mechanism when the 965 foot level is reached, which will gradually reduce the level to the normal reservoir elevation of 920 feet above sea level. Mr. Bernard D. Murphy, Chief Engineer of the Forests and Waters Department, estimates that 30 continuous hours of operation will be required to accomplish the reduction. During the time necessary to bring the level up to testing height, a flow of 36 cubic feet per second will be maintained in order to support fish life in the lower stream area. Murphy announced that the Superintendent of First Fork Dam will be Mr. Raymond Azzato, who will reside at the Dam with his family upon completion of the home currently being built by the State.

Drainage area served by First Fork Dam is computed as two hundred forty three (243) square miles. The "run-off" from this extensive area will now be checked during periods of heavy rain and thaw by the newly formed reservoir. Much of the flood threat will be averted and an adequate water supply will be stored for regulated release.

Total cost of construction to date has been \$9,206,014. Additional building expenditures will amount to approximately \$50,000. Secretary Goddard emphasized the invaluable facilities to be provided by First Fork Dam to the general public, such as boating, bathing, and fishing. "In addition," Goddard said, "we cannot put a price tag on the worth of expanding flood control protection as needed by the Commonwealth. Protection against disastrous flood damage is a necessity. First Fork Dam adequately meets these needs, and will repay its cost many times over to the people of Pennsylvania."



C. Robert Glover

Bob Glover Heads Commission's Conservation Education Staff

The Pennsylvania Fish Commission has appointed C. Robert Glover of Allentown, 42-year-old news, radio-TV, magazine and advertising specialist, to head its public relations-conservation education staff.

The announcement was made by William Voigt, Jr., executive director, who said:

"In addition to many years of well-rounded public information experience, Bob Glover has long been deeply interested in recreational resource conservation and management. We feel this gives him unusually good qualifications to handle this phase of Commission activity.

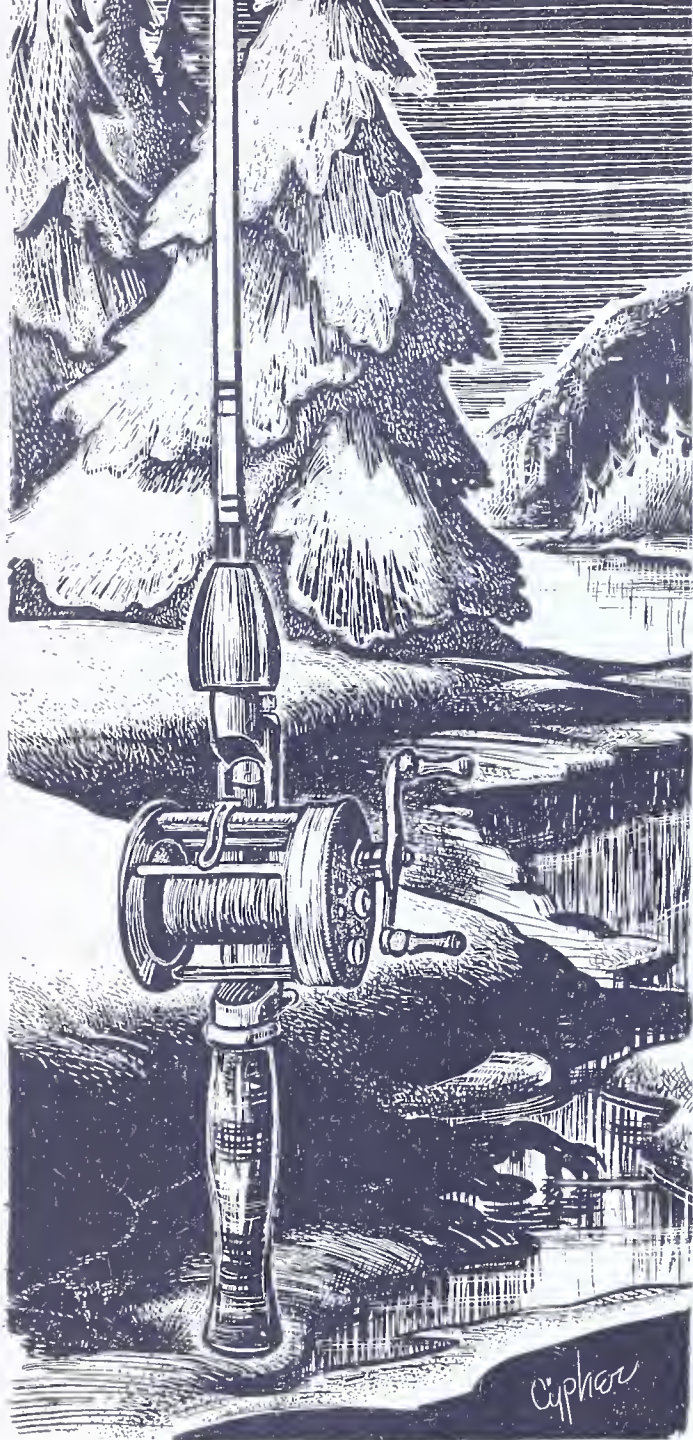
"Glover comes to us from his own advertising-public relations company. He has been writing and broadcasting news of the outdoors since 1937. He is a long-time member of The Outdoor Writers Association of America, and has been active for years in sportsmen's clubs and conservation organizations.

"Because of the specialized nature of the Commission's activities, we feel Glover's experience will help us report accurately to the public of Pennsylvania what the Commission is doing in the interests of improving public fishing opportunity, and why we are doing it.

"J. Allen Barrett will continue in the public relations division as assistant chief, with primary responsibilities in the field of conservation education."

In addition to handling press and radio information, Glover will supervise publication of THE PENNSYLVANIA ANGLER, and the preparation of motion pictures, film slide programs, and displays for public exhibition purposes, the statement said.

C Conservation



National Wildlife Week 1956 Scheduled for Week March 18-24

The National Wildlife Federation has listed eight ways the average citizen can help save the kinds of wildlife that are in danger of becoming extinct.

"Save Endangered Wildlife" is the theme of National Wildlife Week, now being observed under the sponsorship of the Federation and its member state associations and local clubs throughout the country. Sponsoring organization in this state is the Pennsylvania Federation of Sportsmen's Clubs.

Mr. Seth L. Myers of Sharon, state Wildlife Week chairman, said every person can help by joining a conservation club or simply by exercising his rights as a citizen. Among these rights, he explained, is the American privilege of expressing ones opinion to legislators and public officials.

Those kinds of wildlife that are about to pass from the scene are getting special attention this year.

Literature published by the National Wildlife Fed-

eration lists many of these endangered forms: sea otter, lake sturgeon, lake trout, trumpeter swan, Everglade kite, Eskimo curlew, grayling, California condor, prairie chicken, bighorn sheep, whooping crane, grizzly bear, ivory-billed woodpecker, Key deer, Tule elk, black-footed ferret, kit fox, woodland caribou, gray wolf, red wolf, manatee, Caribbean monk seal, Mississippi kite, swallow-tailed kite, white-tailed kite, roseate spoonbill, Hudsonian godwit, Florida sandhill crane, Laysan teal, neue, Aleutian tern. Florida burrowing owl, Peregrine falcon, red-bellied hawk, Kirtland's warbler, Cape Sable seaside sparrow, Great Lakes whitefish, American crocodile and green turtle.

State Chairman Myers has pointed out that many other kinds of wildlife, while not endangered in the nation as a whole, have been wiped out in some states and are threatened in others.

Here are the recommended "eight courses of action":

1. Promote research to find ways of restoring the endangered species.
2. Encourage the programs of federal and state conservation agencies. Support the game and fish laws.
3. Work for laws that coordinate wildlife management in flood control, reclamation, river development and agricultural programs.
4. Stop the destruction of wildlife habitat that is caused by soil erosion, over-grazing, burning and other forms of land abuse. Oppose the unwise drainage of swamps and marshes.
5. Start local education campaigns to create public awareness of wildlife problems.
6. Help safeguard the national and state parks, forests, sanctuaries and other areas that have been established to preserve the wilderness and its wildlife.
7. Work for effective water pollution control.
8. Support the efforts of the Survival Service of the International Union for the Protection of Nature. This organization, with headquarters in Brussels, Belgium, works to save endangered wildlife throughout the world.

New Yearbook Out on Improving Valuable Water Resources

The 1955 Yearbook of Agriculture entitled, "WATER," devotes 752 pages to this important subject, and this handsome volume is an excellent reference book and a worthy addition to any home library shelf.

Although primarily devoted to the farmer's and rancher's water problems it also has many chapters of interest to city and urban dwellers, sportsmen, industrialists, foresters and gardeners.

Each of the 95 chapters is written in non-technical style by a specialist in his particular field. Since each one of us uses vast quantities of water, either directly

Across the Nation

or indirectly, in his daily living at least some portion of this informative book will prove of value to everyone.

The 95 chapters are arranged under the following main headings: Our Need For Water; Where We Get Our Water; Water and Our Soil; Caring for Our Watersheds; Water and Our Forests; Water for Irrigation; Water and Our Crops; Our Range and Pasture; Gardens, Turf and Orchards; Drainage of Fields; Water and Our Wildlife; Pure Water for Farms and Cities; and A Look to the Future.

The information this Yearbook contains about water is not just for today. All things, including weather and rainfall change fast, and our memories are short. When it rains, we forget about the dust bowl; when it is dry, we forget about the floods.

So accustomed are we to filling all of our water needs by simply turning on the faucets in our homes that it is difficult to realize the plight millions of people in Asia Minor, India, Africa and South America face in just satisfying their minimum needs of 3 to 5 gallons per person a day.

This book on water reminds us that; "In Madagascar, women carry water home in jars on their heads across miles of hot sands. In one rural community in southeastern Asia the women have to walk 9 miles to the nearest water supply, and bring the water back in buckets. Since one wife can make only one trip a day with her bucket, and this is not enough for the needs of the family, men find it necessary to have several wives just in order to keep the household supplied with water."

But scarcity of water, in many parts of the world, is often less a problem than too much water in the form of floods. Although few of us in this area have experienced the ravages of floods all of us are becoming increasingly aware of the flood menace in the United States, from New England to California, as we read about the terrible destruction of life and property that occurred within the past year in both New England and Northern California. The new Yearbook of Agriculture has much to say about floods, and a program to alleviate them.

Maps, drawings and photographs in profusion add to the interest of the text in this Yearbook devoted to "WATER."

Anyone interested in this vital resource, water, can purchase the Yearbook of Agriculture, 1955, by writing to the Superintendent of Documents, Washington 25, D. C.

Learning the Hard Way

Madison, Wis.—Five Milwaukee high school boys learned about conservation the hard way.

Smoking while hunting in Jefferson County they set a marsh on fire which was brought under control by the Johnson Creek fire department. They were found

to have violated a number of conservation laws and Conservation Warden, Willard Laesch, handled the cases under the conservation lenient department rules for dealing with juvenile violators.

The parents of the boys paid the cost of suppressing the fire, \$71, and at this writing the boys were still at work trying to put out a fire still smoldering in the peat. They were put to work at the suggestion of the parents.

Lake Property Given to North American Wildlife Foundation

A large man-made lake near Canonsburg, Pennsylvania, has been presented to the North American Wildlife Foundation by the Pennsylvania Transformer Company, a division of the McGraw Electric Company of Chicago.

According to Pennsylvania Transformer officials, the lake is fed from a drainage area of about 45 square miles, and only by fresh water streams that are completely free of industrial waste and other forms of contamination. The property, which is near U. S. Route 19 about halfway between Pittsburgh and Washington, Pennsylvania, is valued at about \$750,000.

Fishing and boating facilities, bird sanctuaries, and research projects by various state schools and universities are planned. Actual development of the tract will be done largely by the State of Pennsylvania, and all recreational facilities will be open to the public.

Increase for National Forest Recreation Areas

The Forest Service budget includes an increase of \$470,000 for "sanitation and care of public campgrounds" in the National Forests. This item got a timely although inadequate increase of \$700,000 last year, bringing the 1955-56 total for public-use areas to \$1,724,500, counting in the pro-rated share of the pay-raise voted by Congress last year for all federal employees.

But the Budget Bureau and the Administration continue to exhibit a blind spot when it comes to wildlife resources in the National Forests. Although more than 11 million sportsmen went hunting and fishing in the 180 million acres of National Forests last year, and although these federal lands provide homes for one-third of the nation's big game, not to mention small game, 81,000 miles of fishing streams and 2¼ million acres of lakes and reservoirs, no increase was budgeted, or voted, last year for management and improvement of wildlife habitat. No increase has been budgeted for wildlife next year. This item remains at the absurdly-low figure of \$230,000, counting in \$20,000 added because of the pay-raise Act.



Fish Wardens—Men of All Around Outdoor Activities

A look at a consolidated report of activities of the wardens of the Pennsylvania Fish Commission in 1955 seems to knock into a cocked hat the old idea that the warden is just an outdoor policeman.

The report discloses that the 51 district wardens and the six division supervisors made 26,936 separate trips in the performance of their varied duties in the calendar year. These 57 field employees worked a grand total of 155,562 hours, which adds up to an average of 54.58 hours a week on the basis of a 50-week work year.

Total mileage traveled was not included, but the report indicated 12,070 trips, or 44.8 per cent of all trips, were undertaken in the course of stream patrol and law enforcement, and that this consumed 73,086 hours, or 47 per cent of their working time.

Some 2,461 trips were made to help stock fish in Pennsylvania's open waters, and these consumed 10,974 man-hours. Other activities shown in the report included:

1,366 meetings (sportsmen, service clubs, schools, etc.) were attended, the total for which required more than 6,764 hours, while some 2,203 trips were made in assisting and cooperating with the field force of the Pennsylvania Game Commission.

The balance of 8,836 trips involved 121 fish removal missions; 112 stream surveys; 535 pollution investigations; 761 mine drainage inspections; 283 stream channel changes; 222 dam draw downs; 138 farm pond inspections; 132 missions assisting Fish Commission biologists; 110 assisting land and water acquisitions; 69 assists to the Fish Commission construction engineers; 468 investigations of posted property; 10 assists to fish hatchery personnel; 118 trips made in assisting Pennsylvania State Police, etc., and some 3,957 trips on miscellaneous matters necessary to the administration of Pennsylvania's public fishing program.

More Trouble With Gizzard Shad at Erie

Everyone in the vicinity of Erie has various reasons for cussing the gizzard shad for the nuisance they are and the stink they make. Recently the ANGLER reported their jamming up the intake tubes at the local Power company station causing a partial blackout in Erie. Now these blasted fish, migrated into the east and west slips of the public dock, have caused a minnow shortage. Dealers have been going out of business fast while others are forced to get Emerald Shiners shipped in from Michigan. Some dealers have imported types of grubs to supply the demand for bait for ice fishermen. Ice fishermen have further reason to hate the "mooneyes" because they drift in masses into the bay; ice forms around them but does not freeze solidly. The wind blows snow into these patches and fisher-

men walking about fall through the ice. Five anglers had to be rescued only recently. Like the weather, everybody wants to do something about them but nobody can figure out what!

—Bert Euliana, Fish Warden
Erie county

Ice Fishing Interest Up This Year

More and more Pennsylvania fishermen are taking to ice fishing on streams, lakes, ponds and dams of the commonwealth. The Clear-View Water Company Dam on East Licking Creek, with almost 50 acres of water, carried a thick covering of ice this winter, proved a popular spot for the tip-up artists who are just commencing to take up the sport. While no large fish were taken, one angler did pull a 20-inch pickerel from a hole in the ice.

—C. V. Long, Fish Warden
Juniata and Perry counties

Crows Crossed With Fish Hawks?

When crows start fishing it's news and they didn't have webbed feet either. On two occasions crows were observed gathered around small openings in the ice on Shawnee Lake and it appeared they were busily feeding on something. Given a closer look-see it was revealed that small fish were surfacing in the open water. The crows would snap at them with the speed of a Kingfisher and guzzle them with gusto. Later small minnows and several yellow perch were found around holes in the ice. Things must be getting rough when crows turn fish eaters.

—William E. McIlroy, Fish Warden
Bedford county

Another "Stock Gate" For Farmer

By Mifflin County Sportsmen

The Mifflin County Sportsmen's Club have decided to erect another "stock gate" on the West Branch of the Kishacoquillas. The gate will be placed in operation on the land of a farmer who has suffered to have cattle wander thru gates left open by thoughtless fishermen. The new gate should relieve him of future worries. Action such as this goes a long way to promote harmony, good order and good will between sportsman and landowner making more miles of fishing water open to the public.

—Richard Owens, Fish Warden
Huntingdon and Mifflin counties

JP Almost Gets Material for Davy Crockett Hat

John H. Hartzell, 84 year-old Justice of the Peace in York county just missed getting something toward a Davy Crockett hat while fishing along the Conewago Creek last fall. He had several bluegills and a few

From the streams



catfish on a stringer nearby. Things became pretty quiet but the stillness of the autumn evening was shattered by a commotion in the vicinity of his stringer. Investigating with his flashlight he was amazed to see a raccoon snatching one of his bluegills. P.S. He didn't get the 'coon the bluegill nor the hat.

—Paul Martin, Jr., Fish Warden
York county

Fewer Post Signs Along the Breeches

While checking the lower end of the Yellow Breeches recently for posted property I was pleased to find there were less posters around than there have been for the past three years. Also, I learned the landowners are pleased with the conduct of the fishermen. Perhaps all the articles carried by the *ANGLER* urging fishermen to behave themselves has borne good fruit.

—Barry A. Gracey, Fish Warden
Cumberland county

Flitting Day for Fish in P.R.R. Pond

The work of transporting fish from the artificial pond on Pennsylvania railroad property at Hollidaysburg back to their original home in the Frankstown branch of the Juniata river and to ponds in the area was completed recently under the direction of Fish Warden Claude Baughman and George Magargel, superintendent of the Reynoldsdale hatchery, two employes of the hatchery, Albert Debo and Bill Dorman of the Altoona Volunteer Sportsmen's association and several Pennsylvania railroad men loaded a truckful of fish.



Approximately 5,000 carp, suckers, catfish, sunfish and pike were removed in one dip of a 40-foot net. The net was lowered at the only corner of the pond not frozen over. All the fish were congregated in this corner attempting to get air.

The men used smaller nets and tubs to transfer the fish from the large net into the truck from where they were taken and dumped into the Lakemont park dam and into the Ivyside warming pond. About 500 were returned to the Frankstown branch.

Some of the carp measured almost 24 inches and weighed as much as 10 pounds, it was estimated.

The pond was created when construction men needed to fill low ground on the site of the Samuel Rea shops and the reclamation scrap plant and dredged a long, deep hole parallel to the Frankstown branch. Rain filled the opening and spillover from the branch brought in the fish more than two years ago. Now the hole will be filled up and a new home was needed for the fish.

Permission was obtained from the fish commission at Harrisburg to do the job.

Pollution Caused By Spraying Materials

The Sanitary Water Board has issued a warning against any practice that may cause pollution of the streams by spraying materials. A number of complaints are being received from various sections of the State by the Bureau of Sanitary Engineering of the State Health Department, which executes the Clean Streams program, charging killing of fish as a result of spraying materials getting in the streams. Most of the occurrences are said to result from washing the spraying equipment along the bank of a stream and flushing the residue into the waterway.

It is pointed out by the Board that pollution caused by agricultural and horticultural operations violates the Clean Streams law the same as that which is caused by sewage and wastes from industrial establishments and the violator is equally subject to the provisions of that law.

MOVING DAY for some 5000 carp, suckers, catfish, sunfish and pike from the P.R.R. pond at Hollidaysburg. Supervising the flitting are (l-r) Warden Claude Baughman, George Magargel, superintendent Reynoldsdale hatchery and Arthur Way, hatchery employee, all of the Pennsylvania Fish Commission. The Altoona Volunteer Sportsmen's association and several P.R.R. men assisted in loading a truckload of fish.

from Here and There



AWARD WINNERS in Harrisburg Hunter's & Angler's Assoc. Contest: Back row—(L-R) John W. Gruff, Stewart L. Otstot, M. H. Foster, George W. Fordney. Front row—Wm. W. Youart, Gerald Stansfield, Barry Grove and Edward P. Ervin.

Winners in Harrisburg Hunter's & Angler's Association 18th Annual Fishing Contest

Contest chairman, John Bistline of the Harrisburg Hunters and Anglers Association has announced the winners in the club's 18th annual big fish contest. Sponsored to promote sportsmanship, the contest last season had the cooperation of local merchants providing tackle prizes and trophy plaques. Some of the winners received a years subscription to the PENNSYLVANIA ANGLER. Winners are as follows:

First Place Winners

Edward P. Ervin	Brook Trout—17 $\frac{1}{4}$ "
Camp Hill, Pa.	
William W. Youart	Brown Trout—27 $\frac{3}{4}$ "
Harrisburg, Pa.	
E. R. Stingily	Small Mouth Bass—23"
Harrisburg, Pa.	
John W. Gruff	Walleyed Pike—27 $\frac{1}{2}$ "
Highspire, Pa.	
James A. Reilly	Pickereel—20 $\frac{3}{4}$ "
Camp Hill, Pa.	
Frank O. Forsyth	Rock Bass—10 $\frac{5}{8}$ "
Harrisburg, Pa.	
Gerald Stansfield	Fall Fish—16 $\frac{1}{2}$ "
Shiremanstown, Pa.	
Barry Grove	Sucker—18 $\frac{1}{2}$ "
Bressler, Pa.	

William C. Miller Cat Fish—20"
Harrisburg, Pa.

Second Place Winners

M. H. Foster	Brown Trout—20"
Enola, Pa.	
John C. Miller	Small Mouth Bass—22"
Pittsburgh, Pa.	Tie
William R. Myers	Small Mouth Bass—22"
New Cumberland, Pa.	
George W. Fordney	Walleyed Pike—25 $\frac{1}{2}$ "
Enola, Pa.	
Stewart L. Otstot	Rock Bass—10 $\frac{1}{2}$ "
Camp Hill, Pa.	

Life Begins at Forty

Nowadays others are sayin' fifty, sixty, even eighty.

Point is, through sanitation, disease control, education, and some other things, folks in this country are livin' longer, on the average, than their grandpappies did. That's good.

But the young folks comin' along, want jobs; they want to be climbin' ladders. They don't want old fogies standin' in their way. Not only that, but most mature folks reach the stage where they have a hankerin' to quit work and take life easy some day. That's good.

So what do the old fogies do when they retire? Well, some of 'em just set on their fannies. And too often, the change from high-pressure livin' to just settin' got the best of 'em. They didn't know what to do. They didn't last long. That's bad.

That's where huntin' and fishin' comes in. Not to be killin' things, nor to promote business for the ammunition and tackle manufacturers, but to give folks good clean outdoor recreation. Male or female, young or old—all can enjoy 'em. Furthermore, they develop into first-rate indoor, between-season hobbies.

Take fishin'. A few barnyard feathers, a spool of thread, some hooks, and you're all set for many long evenin's entertainment. All the while you can be reminiscin' of days on the stream, big ones that got away—anticipatin' how this new fly will fool the lunker next season. There's a rod to be rewrapped and varnished, reels to clean and oil, nets to repair, spinners to polish and lacquer—just all kinds of little jobs to keep the hands and mind busy.

Take huntin'. With a few tools, a can of powder, and lead from an old storage battery you can reload your own shells, if you're a'mind to do it. There is no season on paper targets and clay pigeons to test 'em out. And all the things you can make and repair—gun stocks, sights, decoys, tents, cameras, camp outfits, boats,—why there's hardly time to get 'em all in shape for next season.

To my way of thinkin', huntin' and fishin' are ideal sports for kids, for a busy man's recreation, or a retired man's past-time. Let's make sure nobody takes 'em away from us—deliberate or otherwise.

—Outdoor America.

Conservation Club Sets Sportsmen's Show Dates

The Georgetown Conservation Club met at the Georgetown Settlement House recently and made extensive plans for its 5th Annual Sportsmen's Show. The event will be staged at the Georgetown Settlement Gymnasium and will open on Saturday, March 17, the eve of National Wildlife Week, and will continue through Sunday, March 18 and Monday, March 19.

Forest and Wildlife Conservation will be the theme of the show which is the only affair of its kind in this part of the state.

Feature attractions will include a trick and fancy casting exhibition by Stanley Cooper Sr. and Jr. of Plymouth, Pa. The Coopers perform annually at the New York Sportsmen's Show and have given exhibitions at various sportsmen's events throughout the eastern part of the country.

The Al Briese Archery Troupe of Weatherly, Penna., will be back again with breath-taking exhibitions with the bow and arrow.

Entertainment will be provided on Sunday, March 18, by the Curley Herdman Troupe from Ripley, West Virginia, nationally known hillbilly and western entertainers. "Kid Pappe" Papsun, and his wife "Janic," natives of Wilkes-Barre, have been featured with the Herdman troupe for the past 11 years.

The Penna. Game Commission, Penna. Fish Commission and Dept. of Forests and Waters will have displays boosting conservation.

Boat displays, firearms exhibits, fly tying demonstrations, live animal exhibits, sporting goods displays and many other features will round out the event which is gaining recognition throughout the state as the "Wilkes-Barre Sportsmen's Show".

Peter J. Papsun is show chairman, Paul Weiss, Co-chairman, assisted by Brinley Dempski, Evan Pickett,

How Trout Were Named

BY DAY YEAGER

FOR years Americus Vespucci, in old Italy, studied night and day, learning about navigation. His very life was dedicated to the study of tides, stars, pressures and direction of currents, hoping that someday he would be able to travel thither and yon to better fishing spots. Finally one early spring morning he set sail, his jacket bulging with flies. He landed somewhere near the Indian village of Scratchaweetcha, now Baltimore, Maryland, and traversed the mountains into Pennsylvania. Actually this was before Penn owned the woods so there were no posters prohibiting fishing. Americus thought this encouraging so he tramped across the state as far as his little legs could carry him and set up camp on Big Pine Creek, which was known as Little Pine in those days since the trees were all small. Ves cast for weeks without luck and although he waxed his line, his enthusiasm waned. He couldn't help but notice the little barefoot Indian boys trotting by with long strings of fish dragging in the dust.

"How?" he inquired of several of the young braves.

"Wig worm" they replied, but poor Ves knew little of their language, and went on fishing flies.

One day he eventually caught a little brookie and as he brought him to net, his spirits fell. He noticed that his speckled beauty was under-size. Just then an Indian boy stepped out of the bush and voiced his opinion.

"Ugh!"

Ves could contain his disappointment no longer.

"I'm a getta distraught," he answered, disassembling his tackle, tossing the fish on the ground and returning to his boat.

A few days later, the chief missed the Italian explorer.

"Ugh! Where's Vespucci"? he asked.

The little boy who had seen Americus last told his story.

"He's a getta distraught," the boy answered, pulling the fish from his pocket. "Then he left."

"Ugh," the chief exclaimed. "You mean this little fish is a traught. I've often wondered what they were called."

For years the traught fishing was excellent and the Indians were happy.

When Penn arrived, however, he brought with him many pear-shaped tones. Whenever an Indian would say, "I'm a getta dis-traught," Penn would correct him.

"That guy Vespucci surely loused up the English language. Now say after me, how-now-brown-trout. I'm getting this trout. Try it."

The Indians soon learned and several years later when Americus returned with a new jacket full of flies, they waited patiently while he rigged up. On his first cast he caught such a big fish that his six-piece bamboo fly rod was rapidly transformed into a seven-piece job. It was the only rod he had with him. He was so angry, he grabbed the line hand-over-hand, hauled in his prize. He dumped the fish in his creel and exclaimed once more, "I'm a getta distraught."

"No, no," the Indians shouted in unison, "you are getting this trout."

Vespucci thinking the Indians had been eating too many nuts, stormed back to his boat, never to return. Little did he know that his undersize fish was responsible for a name we love and respect.

John Foley, George Zonko, Thomas Lyons, Joseph Beres, Joseph Pekol, Stanley Geffert, Leon Savner, Carl Opet, Joseph Wiernusz and Simon Cichy.

WILL SETTLE FOR PA TROUT!

Dear Editor:

Received your renewal card for renewal of the PENNSYLVANIA ANGLER. Please, by all means, renew it.

Florida has good fishing but for real fishing I'll settle for our cold stream trout any day.

Bill Steindel

Winter Haven, Florida

SURVIVES DELAWARE FLOOD

Dear Editor:

Since my subscription is running out please find a renewal. You boys are putting out a swell magazine and it has become a household necessity. I know because I get many more but I do enjoy your magazine best.

Not only that my interests are tied down to the Delaware and Pike county, but it is a more instructive and interesting paper. Hope you can come through with more articles on this area which is going to be a changed river after the floods of last August. The whole family went thru this on the river road opposite Port Jervis. Best luck and keep coming.

Joe Woolly

Brooklyn, N. Y.

AGIN' CATCHING TROUT AT KOON LAKE

Dear Sir:

Regarding the article on Koon Lake Trout run in the January issue of the ANGLER in which you asked for opinions on loop-hole in fishing laws which permits catching fish out of season provided the fish are returned to the water. I think such a loop-hole in the laws should be plugged.

Even if trout are caught and released some are bound to be injured or killed.

Another thing I would like to see the Commission do, depending, of course, on water levels, is stock trout in the early fall. While this may be impractical in small streams, those carrying plenty of water like the Slippery Rock, Sugar Creek and Wolf Creek would be ideal.

Also, I want to give you a pat on the back for the fine magazine the ANGLER is. I have been subscribing for four years and keep every issue in book form. It sure provides plenty of reading, over and over again with something interesting each time. Keep up the good work.

Russell G. Parker

Grove City, Pa.

FER CATCHING TROUT AT KOON LAKE

Dear Sir:

On page 23 of the January ANGLER there's an item about trout runs in Koon Lake and the people with fly rods who catch and release trout out of season. It would seem the writer of the item thinks the laws

should be changed to stop fishing these trout out of season but how about the trout fishermen at this same lake who catch bass in May and June? Bass hit quite freely at the lake in June.

Last March before the 15th I caught quite a few of those trout on artificial bait. Some of the sucker fishermen, fishing with worms, were very angry because I lifted some fine trout out of the water but I contend these sucker fishermen do more harm to trout with their worm hooks than I do with a spoon. I fish strictly for sport and not meat and I see no reason for preventing the hooking of any fish out of season if the fish is handled with care and returned to the water uninjured.

I cannot see how it is possible to plug any loop holes so long as seasons overlap the way they do at present. Maybe a calendar should be posted at Koon Lake to advise the fish when seasons are closed or open.

Laurence R. Hausele

Mt. Pleasant, Pa.

Dear Editor:

Here's my check for renewing my subscription to the ANGLER for another five years. Your ANGLER is still tops in my reading material.

Thank you especially for the article "Conservation Is Not Enough" which appeared in the January issue. This was one of the finest I've ever read in the magazine. If only the masses of fishermen could be made to understand that the killing of fish is not a necessary consequence of the sport. Too many anglers take fish from a stream which they really do not relish as food and after the fish has been freely displayed for purposes of attesting to their angling prowess it becomes cat food. Action such as this is not only contrary to true sportsmanship but a direct violation of the moral law of nature which is to kill only when food is needed. In these days of plenty I see no need for angling for food alone.

Personally, I have found the utmost angling satisfaction when a fish has provided me with the thrill of the strike, the battle, then returned to the water to repeat the thrill for some other angler. If I wish a record of the fish I'll quickly get a snapshot of it, then gently return it to the stream. The true satisfaction of angling is in the love of nature and not its destruction.

David Smith

Hatfield, Pa.

Education

Education does not mean teaching people what they do not know. It means teaching them to behave as they do not behave. It is not teaching the youth the shapes of letters and the tricks of numbers, and then leaving them to turn their arithmetic to roguery and their literature to lust. It means, on the contrary, training them into the perfect exercise and kingly continence of their bodies and souls. It is a painful, continual and difficult work to be done by kindness, by watching, by warning, by precept, and by praise, but above all—by example.

—John Ruskin

Healthy Watersheds Prevent Floods

"I WILL LIFT UP MINE EYES UNTO THE HILLS," cried the Psalmist, "FROM WHENCE COMETH MY HELP."

More and more people, like David, are becoming uncomfortably aware that our welfare is tied up very closely with what is happening in the surrounding highlands.

Floods are usually caused by a too-rapid run-off. This is encouraged when watersheds are abused. The forests build up a thick layer of dead leaves, under which there is a dense mat of fine roots which anchor trees, shrubs, and herbs.

The rain must first saturate the crown foliage, then the understored foliage, and finally the thick mat of humus. All this retards the run-off so that erosion is stopped and a steady supply of clear, filtered water is fed into forest streams.

The trees of the forest themselves consume huge quantities of water through their roots and this tends to reduce and hold back the amount of water going at one time downhill. When such forest cover is removed, the water runs faster and faster downward to the sea.

Watershed forests keep mountain streams healthy. This means good wildlife habitat and good fishing possibilities. Such forests check erosion and floods.

And so, when David lifted his eyes to the hills around him, he was doing what we of the 20th century should do more often.

The practice of conservation is an act of patriotism, and the understanding of it, the preaching of it, and the contribution to it are parts of the fundamental duty of a citizen in a free society.

"Like winds and sunsets, wild things were taken for granted until progress began to do away with them. Now we face the question whether a still higher 'standard of living' is worth its cost in things natural, wild, and free. For us of the minority, the opportunity to see geese is more important than television, and the chance to find a pasque-flower is a right as inalienable as free speech."—Aldo Leopold

WAITING FOR SPRING

I spent hours of my spare time
With a very lovely lass—
In November and December
When I cannot fish for bass,
And thru the new year's early months
When the ice and snow are deep—
I seldom think of fishing
She's on my lap, asleep.
While my heart is in her chubby hands
All thru the winter months,
My interests change and shame me
When I walk and hear no crunch.
I build her forts and snow men
And romp for hours at play—
But can only think of fishing
When I stop to rest each day.
My nights are filled with pleasant dreams
Of rods and reels and favorite streams—
Big bass that made the water swirl
Of good old pals, the little girl,
Awake—its plain what must be done
A man can't sit around just wishing!
I'll let her help me find some bait
And then I'll try the sucker fishing.

By J. A. McHugh

FARMING IN RHYME

A little strip of grain
A wider strip of hay
Will always keep the land
From being washed away.

"A litterbug I will not be;
It's His outdoors I wish to see.
Bottles, cans and broken glass
Make one forget about the bass,
And wish he'd meet the thoughtless guy
Face to face and ask him why.
I guess he's just too ornery mean
To keep the outdoors clean and green."

—Bruce Slavery



PENNSYLVANIA

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DOCUMENTS SECTION

ANGLER

PENNSYLVANIA FISH COMMISSION



APRIL, 1956

G

etting ready for the great day

The opening of trout season in any of the northerly or western mountain states is a great day for millions of Americans, and Pennsylvania is no exception.

Among the fishermen there is an equivalent of baseball's "hot stove league," which consists of those avid anglers who have been spending long winter hours working over tackle and other equipment, getting it in shape for the hard usage it will get on the great day and the rest of the season.

And, in the Fish Commission, there has been great activity for weeks, even months, in preparation for this same day.

The events leading up to a fisherman's success or failure on opening day actually have their beginnings not months but years before the specific date on the calendar. This is because it takes time to improve streams to their highest potential for fish production, and because the trout that need to be planted cannot be reared overnight from the eyed egg to legal or larger size.

Some of the newly stocked trout caught by Pennsylvania fishermen on and after April 15, 1956, had their origins as many as three years before. More of them were hatched as much as two years earlier. The vast majority were from the hatch of the fall of 1954. These represent the trout from six to about eight inches in length that, of necessity, constitute the bulk of the annual plantings.

By April 15, more than 1,900,000 legal or larger trout had been planted in suitable Pennsylvania trout waters open to public fishing. The production of these fish represented the around-the-clock labor of more than a hundred hatchery workers, and the feeding of hundreds of tons of fish food needed to rear the trout to stocking size.

But that wasn't all that was involved. The task included taking inventory of the trout on hand, by size and by species. It included calculating what trout could feasibly be stocked prior to opening day in the approved waters of the Commonwealth. And, after that, came the terrific job of traffic management necessary to assure that tank trucks and labor would be available to get the nearly two million plantable trout out of the hatcheries and into the streams.

Obviously, this could not be a haphazard procedure. All streams could not be stocked

simultaneously. Spring-fed limestone streams, and freestone streams in the southerly counties, normally would be open and accessible first. They, naturally, would be given first attention. Streams in the northerly counties, and at colder, higher elevations in mountainous country, should and would be stocked later. Nor should each truck travel too far.

With these fairly obvious conditions considered properly, the shipping orders and route slips were prepared, and the hatcheries and wardens notified. The orderly bustle of moving trout in the hatcheries to the loading areas, counting and loading them into the tanks, and moving them out to the streams followed.

Words can provide the facts, but it would take an animated map of the state to give the real picture. It was a sizeable undertaking, and a sizeable part of the service provided to Pennsylvania fishermen in return for the license dollars they spend for the privilege of enjoying their favorite sport.

More trout will be planted in the course of the season, but the pre-season stocking constitutes the big push as far as trout are concerned.

Nineteen fifty-seven will be another year. The story told then will probably be the same as this one, with some variations. By that time the Commission hopes it will have more facts in hand regarding the streams and their condition, their natural fish rearing capabilities. Not enough for the long pull, but certainly more information than is now available in usable form. Perhaps by then the Commission will have found it practicable actually to institute some stream improvement work in an effort to increase natural stream fertility and production.

The average fisherman now considers April 15 as his great day of the year. To the Commission, another great day will come when it can be said that our knowledge of Pennsylvania waters is up-to-date and accurate, and the waters themselves have been nursed along and developed to a point where so-called put-and-take fishing streams are a smaller fraction of the total.



WILLIAM VOIGT, JR.

**COMMONWEALTH OF
PENNSYLVANIA**

HON. GEORGE M. LEADER
GOVERNOR

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Illustrations

Art by Bob Cypher

Cover by Cy LaTour and Son

Cover 3 by Harry Wolf, Jr.

Back Cover—Don Shiner

George W. Forrest, Editor

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As Nature Intended

By **C. ROBERT GLOVER**

Chief, Conservation-Education Division

From data compiled by

GORDON L. TREMBLEY, Chief Aquatic Biologist

KEEN BUSS, Biologist, Pennsylvania Fish Commission

WERE you to bust out of the woods onto the shoreline of Upper Woods Pond in northcentral Wayne County, Pennsylvania, and were you familiar with any of the "gems" that dot the wilds of the Canadian Provinces, you would be struck by the similarity of setting. And were you then to test the water's depths, its coolness would confirm your first impression. Trout—totally and completely trout.

In Canada yes. In Upper Woods Pond, no. But it was not always thus. And before this year is out the calendar for it will be rolled back. That 79-acre body of water in Pennsylvania Game Land Number 159 is another of some 50 Pennsylvania lakes wherein fish and fishing is now under the management of the Pennsylvania Fish Commission, and there are plans for it.

Upper Woods Pond is nestled in a dense second growth, high in the headwaters of the East Branch of Dyberry Creek, a tributary of the Lackawaxen, which in turn enters the Delaware River at the town of Lackawaxen.

It can be reached afoot or by car via Game Commission trail, from county road No. 63041, which runs north from state route No. 371 at Cold Spring. The Pond and its environs are and will remain a semi-wilderness area. Outboard motors, camping, fires, and bathing are prohibited. And although there are no boats nor docking facilities maintained there, anglers may bring in their own craft. Nor will parking nearby present any problem.

The natural order of things in Upper Woods was first disrupted in 1836, when pickerel were introduced. Prior to that time, and even for a few years after, brook trout reigned supreme and were plentiful therein. It is a matter of

record that in 1840 fish of this species weighing as much as 3 pounds were "captured."

In 1868 black bass were stocked. And between then and 1888 rock bass, sun fish, yellow perch, catfish and lake trout were added to the population. According to the report of the State Commissioners of Fisheries in 1896, though no lake trout were ever recovered, warm water species thrived and increased. The disappearance "for some unexplained reason" of brook trout was also noted in that same report.

Aside from providing rock bass for the initial stocking of that species in 1888, and the treatment in the 1896 report, Upper Woods Pond did not figure in Fish Commission activities until the summer of 1952.

A short time earlier the Pond, along with



UPPER WOODS POND, like a gem set in an emerald timbered shoreline, is cold, deep and clear, excellent potential for fine trout fishing.

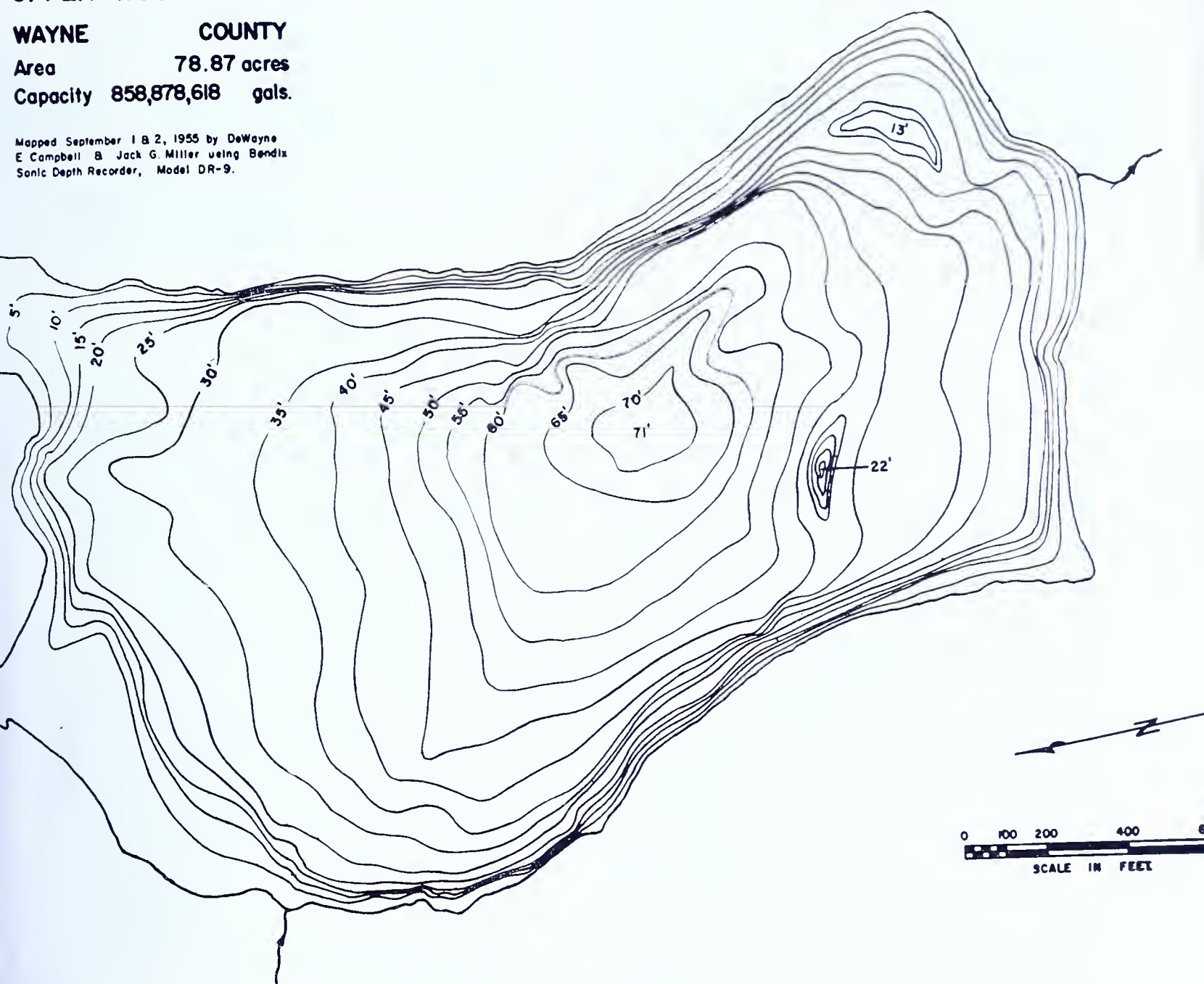
UPPER WOODS POND

WAYNE COUNTY

Area 78.87 acres

Capacity 858,878,618 gals.

Mapped September 1 & 2, 1955 by DeWayne
E. Campbell & Jack G. Miller using Bendix
Sonic Depth Recorder, Model DR-9.



considerable adjoining acreage, was acquired by the Pennsylvania Game Commission. In formulating a plan for increased multiple use for this and other of its areas, the Game body requested the Fish Commission to take over water management here and elsewhere in their game land holdings.

On June 17, 1952, the Fish Management unit composed of DeWayne E. Campbell, biologist, E. S. Makovski and Alan Fletcher, research assistants, moved in. The initial project saw a determination of the species of fishes it contained. Netting, trapping and angling operations revealed the presence of largemouth and smallmouth bass, chain pickerel, bluegill, pumpkinseed and yellowbelly sunfish, yellow

perch, bullheads, golden shiners and various other minnows.

Of a total catch of 1,130 fish, 49% were golden shiners. Bluegills constituted 19.2% of that catch. Following in order of frequency among the panfish were rock bass, 13.2%; brown bullhead, 7.4%; Pumpkinseed, 7.1%; yellow perch, 1.2%; yellowbelly sunfish, 1%; and green sunfish, 0.4%. Smallmouth bass comprised only 1.2% of the catch, averaging 8.3 inches in length. Chain pickerel averaging 14.3 inches made up 1.1% of the catch. It is noteworthy that the condition of the smallmouth bass was poor. Those examined all were entering their fourth year, with heavy tapeworm infestations general.

Upon the completion of the census the lake was sounded to determine depths, water temperatures at all levels were taken, as were water analysis to determine its chemical character, including oxygen content and pH.

Depths up to 71 feet were measured. Particularly noted was the sharp drop-off from the shoreline to depths of 30 feet plus on the east and west shores. Water temperatures ranged between 42 degrees at 68 feet, to 67 degrees at the surface. A good oxygen content was found at all depths, the water was soft and found to be slightly acid, the latter a natural characteristic of the waters of the area.

THAT combination of conditions is not looked upon as ideal for the species of fish it contained. Best for propagation and growth of the warm water species are surface water temperatures ranging from 75 degrees to a maximum of 85 degrees and gradual drop-offs to fairly level mud or gravel bottoms. Best for the welfare of the fry are well weeded shallows and clear water where the production of plankton is high and where a safe refuge from the elders of its own and other species is afforded. Upper Woods Pond's temperatures and sharply sloping bottom do not answer that description.

This is not to imply that warm water species are completely unsuited to its water. Actually, certain fishes of those that exist there could be made to do better with fewer species competing for the available food. But at best none are the species that will demonstrate the maximum production potential of the lake in terms of return or "fun" for the angler.

That potential in Upper Woods rests with trout, especially with its cold water feeders to serve as spawning and nursery areas to augment the stocking that may be necessary. So, as the third step in the management of the Pond, brook, brown and rainbow trout were introduced there in April of 1953. The stocking was duplicated in March, 1954 and in 1955.

During those seasons, an intensive creel census was taken with a census station established on the only road leading to the lake. (see "Fishing Results on Upper Woods Pond"—by Gordon L. Trembley—March, 1954 ANGLER.)

Among the interesting findings was the ratio between the catch of trout and the warm water species. In 1954, 56% of the total fish caught were trout. Of the 1,935 warm water fishes

counted, bluegills constituted almost one-third of the catch. The count of the other species was: rock bass, 584; bullheads, 310; yellow perch, 277; smallmouth bass, 43; yellowbelly sunfish, 36; golden shiner, 33; eels, 33; pumpkinseed, 9; largemouth bass, 8; chain pickerel, 2.

Also the return of trout was high—averaging about 50% and their excellent condition compared with the number, average size and condition of the warm water fishes caught, left no doubt in the minds of the biologists or sportsmen who followed the project's progress, that Upper Woods is for trout, and trout alone.

To make it so, calls up the final step in the management plan—the chemical treatment of the lake. That step is scheduled for late this summer. Meanwhile, further hook and line "cropping" will be the order of things. And to maintain the pace of action to which those who have been fishing there became accustomed, another 4,000 brook trout were stocked there early this year.

Chemical treatment of waters is a tool recently placed into the hands of qualified and authorized fisheries managers by several States' legislatures. Pennsylvania joined the growing list in 1953. The use of the "tool" kills all fish life in any water to which it is applied. This goes against the grain of many sportsmen who have not had the opportunity to learn its value. In fact, the action in other states which pioneered gave rise to protest meetings, court injunctions and what have you. But when it was shown that it restored good fishing, where previously poor fishing—mediocre, at best—was the rule, opposition melted.

IN ANY event, on Upper Woods Pond, little in the way of sport will be lost. The treatment will take place late in the season and make the lake unavailable for a period during which records show only a handful previously bothered wetting a line. It will be well stocked again for the 1957 season.

With youngsters and adults spared the competition for the natural food supply previously presented by the misplaced populations, "three pounders" should not be uncommon in a relatively short time—possibly by 1958.

It is the plan to advertise this final step in Upper Woods Pond management and invite the sportsman to witness the event and assist. And



there is purpose in that too. In order to gain as much knowledge of its fishlife as possible—knowledge that will prove of value to the biologists in managing other waters, the more hands available to assist in the final tally, the more complete and accurate will that tally be.

It is believed the sportsmen will be interested in “being in” on an operation that marks a new era in fisheries management for Pennsylvania. Also, for those who would augment the family larder, there will be fish to be had just for picking them up. Yes, the fish killed will be no less edible than any taken by hook and line. The substance used merely short circuits

their breathing apparatus and in no way affects the flesh.

Nor will the fish which are not taken up by those on hand be wasted in the true sense of the word. They will go back into the “soil” of the lake to re-enter its life cycle when the new order is established, which will be next Spring.

Then where there was a lake, the talents of which for over 100 years were wasted as would the talents of a gifted musician be wasted at a cobbler’s bench, there will again be a gem doing what nature endowed it to do—produce trout and quite naturally, trout fishing.

TROUT SEASON OPENS TOMORROW

The campus lies warm in the sunlight today;
 The pages keep blurring, my thoughts go astray;
 I must off to the hills, to the woodlands away,
 For our trout season opens tomorrow.
 There’s a lure as of laughter that rings in my ears,
 The laughter of waters when ice disappears,
 The swirl of trout waters when wading time nears—
 No classroom can hold me tomorrow.

My rods are new—wrapped and my flies are well tied;
 My leaders are soaking, my cast I have tried;
 I’ll be ready as bridegroom awaiting his bride
 When our trout season opens tomorrow.
 With paddle and pipe, a good comrade or two,
 The rapids we’ll shoot in our trusty canoe,
 And cast, ere the morning sun silvers the dew,
 Where the trout will be leaping tomorrow.

We care not for numbers, we carry no creels;
 All we crave is a feast brought to net with our reels,
 And the joy that every true fisherman feels
 When his wits win a triumph tomorrow.
 Then a pink meated breakfast just boiled to a turn
 And garnished with cress or a frondlet of fern!
 Do you wonder we Waltons impatiently yearn
 For the sport we’re expecting tomorrow.

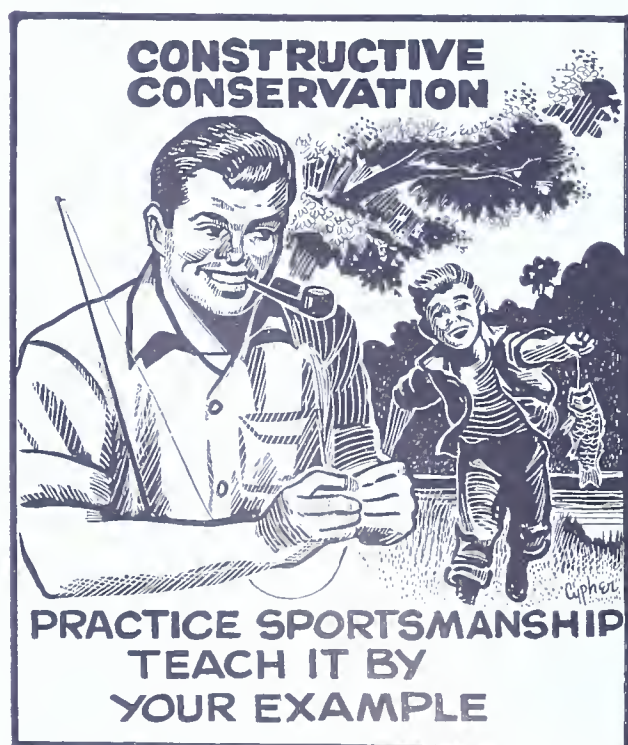
—Martin W. Witmer

You

are

an

Educator



"The foundation of every state is the education of its youth."

DIOGENES

The Greek philosopher had a point in the above saying. Applied to the conservation practices within a state, the point still holds. If youth is educated in conservation, and the necessity for wise conservation practices, the future of our natural resources is secure. And the education of the younger generation is your responsibility, whether you be teacher, parent or confirmed bachelor.

"Why should the educating job be pushed off on me," asks the parent, "I have to make a living for my family."

"Conservation education is the responsibility of the parents," an overworked teacher complains, "I have enough to do just teaching 60 squirming kids the three R's."

"It's none of my business whether somebody else's kids know about conservation," says the bachelor.

The situation of the average parent is easily understood. With a living to make, and taxes to pay for the education of the children, the parent feels that the job of teaching the fundamentals of conservation should be left up to the classroom instructor. However, it should be remembered that conservation begins in the homes. The waste of our natural resources, whether they be water, food or fuel should be curtailed at home. It is definitely the job of the parents to control this waste.

The teacher's argument is a thin one. The moral obligation of the educator demands that the teacher instill the basic concepts of living in the student—conservation is one of these concepts.

The second wall the teacher throws up is the "I don't know enough about conservation to teach it. That sort of work is for specialists."

That is partly true. The average teacher may not know enough to teach the subject, and part of the responsibility is definitely that of the conservation specialist. However, the teacher



Both Pennsylvania Fish and Game Commissions have expert conservation-education men ready to serve on conservation projects. Helps, guides, literature available for the asking.

owes it to himself and his students to become familiar with these practices.

The proper approach to the situation is *not* jumping into a "let's raise pheasants to release, so there'll be lots of them." The teacher with the desire to begin a worthwhile project should contact the expert—the conservation specialist. This individual will be located in either a state or federal office in the capital city. He can advise you on the proper course to take in establishing your program. He can also direct you to experts in phases of conservation other than his own, i.e. wildlife, forestry or soil.

Don't send him a letter saying, "Send me all the pictures and literature you have on conservation." Everyday, letters of this sort arrive in public offices. They demand time and money that could be better used by the busy individual. This is not to say that the expert won't help you. He will be glad to assist—even so far as to put in hours of unpaid overtime traveling over the state to personally answer such requests. You can make your request in a way that will be more acceptable to him, simply by being specific. Let him know what you want to do. Ask advice. Ask for sources of material and pictures. Don't by any means, request every student to write for material. Use ingenuity. Devise your own charts. Locate your own pictures—or have the children draw them.

Investigate the means of integrating conservation into each course, rather than isolating it as a separate course, to be thought of separately. Conservation is integrated with liv-

ing, it should be taught as an integrated part of other courses. It is a simple matter to tie the depletion of our forests to mathematics. A biology course is incomplete, without attention to the relationships between our plants and animals. Conservation verses can be attached to tunes in teaching primary music. English themes take on a new meaning, when they involve a problem on why a certain phase of nature happens to be as it is. From the home through the grades, high school and colleges the ideas of conservation can be instilled in our children.

And what of those without children, who may practice conservation, but feel that it is not their job to teach the younger generations? Theirs is also a moral obligation. Conservation is of national importance. Each citizen owes it to his country to make others conscious of what damage waste can do to our national strength. An understanding of conservation must be instilled in our youth. The job is yours.

The Conservation Education Laboratory for Teachers will open the 1956 summer sessions at Penn State University with two periods—July 2 to 21 and July 23 to August 11. Conservation deals not only with fish, game, forests, water, minerals, land and other material things, but also involves character. The preservation and intelligent use of material things is important. Equally important is the idea of trusteeship.

Succeeding generations must inherit a richer, not a devastated world. Each generation holds

a trusteeship for those things that make life more interesting and colorful. This heritage must be passed on undiminished. Waste and destruction must give way to intelligent husbanding of everything than makes for better living. This is basic in any worthwhile conservation program.

Since the Conservation Education Laboratory for Teachers was established 10 years ago, more than 500 teachers have learned to teach conservation as a way of life. The following are the details of the courses, registration, etc.:

Registration

Available facilities make it necessary to limit enrollment to 30 students in each laboratory session. It is advisable to register well in advance. All students must report to the Laboratory headquarters no later than 8:00 a.m. on the first day of the laboratory program for final registration.

The Laboratory is a full-time program of study. No other course work in the summer sessions may be taken concurrently. Other part-session courses are offered which will enable a student to earn three credits in addition to those completed in the Laboratory, so that a total of six credits may be earned during the six weeks of the Main Summer Session.

The courses

Registration for course work in the Conservation Education Laboratory for Teachers is completed under one of the following courses:

ED. 449A. TEACHING OF CONSERVATION OF NATURAL RESOURCES IN THE ELEMENTARY SCHOOL (3) Needs, purposes, principles, methods, materials, and techniques in teaching conservation of natural resources (minerals, soils, water, plants, animals) in the elementary grades; field work, laboratory demonstrations, lectures by specialists, and planning of experiences for children. Prerequisites: 6 credits in education, 6 credits in science. GIVEN JULY 2 TO JULY 21. GIVEN JULY 23 TO AUGUST 11.

ED. 449B. TEACHING OF CONSERVATION OF NATURAL RESOURCES IN THE SECONDARY SCHOOL (3) Observations, lectures, demonstrations, and discussions of the needs, purposes, principles, methods, and procedures in conservation education; for experienced high school teachers who need field work as a basis for giving instruction in conservation of natural resources (minerals, soils, water, plants, animals). Prerequisites: 6 credits in education, 6 credits in science. GIVEN JULY 2 TO JULY 21. GIVEN JULY 23 TO AUGUST 11.

Methods of instruction

Numerous field trips provide practical first-hand observations and enable the student to develop a philos-

ophy and understanding of the broad relationships of conservation education.

The Laboratory program begins with concentrated work in geology, theoretical and applied. Geological formations of the ore, coal stripping and mining operations, and a typical cave of this region are surveyed in order to give the student a better background for the study of soils.

Soil studies are under the direction of trained soil scientists of the College of Agriculture and the U. S. Soil Conservation service. During this phase of the Laboratory field work the student acquires practical information on soil structure, soil formation, and land utilization.

The School of Forestry and the U. S. Forest Service cooperate to give a basic knowledge of current forest research problems, forest management, reforestation, nursery practices, and forest utilization. Other areas covered in a similar manner include wildlife, fish hatcheries, and community planning in regard to sewage disposal, water supplies, and similar problems.

Individuals attending the Laboratory will gain valuable concepts not only of conservation but also of living plants and animals and their interrelationships. There will be opportunities to learn of the vast amounts of resource materials which are available—books, magazines, pamphlets, bulletins, films, and slides—in addition to classroom activities at both the elementary and secondary levels.

Because of the great variety of the program and extensive field trips—some 500 miles traveled by private bus—the students develop a better understanding of Pennsylvania and its natural resources.

Admission requirements

Open to men and women teachers in both elementary and secondary schools, the Laboratory is planned to develop the layman's point of view so that he will recognize the need for more concentrated conservation practices.

The same admission requirements are applicable to the Laboratory as are in effect for students enrolling in general courses in the Summer Sessions. Students expecting to apply Ed. 449A or Ed. 449B toward the requirements of an advanced degree, either at this institution or elsewhere, must have been admitted to the Graduate School of The Pennsylvania State University at the time these courses are scheduled.

Application forms for admission to the Graduate School may be obtained through the Office of the University Examiner. Transcripts of former academic records should be filed in duplicate with the University Examiner in support of such application. Further details pertaining to admission requirements are included in the 1956 *Complete Announcement of Summer Sessions*, a copy of which may be obtained upon request to the Director of Summer Sessions. Graduate students may also write to the Dean of the Graduate School for a copy of the *Graduate School Announcement*.

The Pennsylvania Fish Commission is among many cooperating State and Federal agencies contributing to the courses.



Castle on the Kettle

By WILBERT NATHAN SAVAGE

High on a bluff in Potter County stands a castle of broken dreams, built by a great man in world and Pennsylvania history, that eternally looks down upon trout fishermen on the Kettle.

In response to many demands from anglers and hunters this story of a castle in Potter county overlooking the wild ravine of Kettle Creek is presented by the PENNSYLVANIA ANGLER.

A LITTLE more than a century ago, Ole Bornemann Bull—in genuine latter-day Viking fashion—came to this country from Norway and carried out an intrepid but ill-visioned plan in Pennsylvania's Black Forest area—a colonization plan which was destined to bear bitter fruit in a short season. For while the colony Ole founded has pressed itself indelibly into Pennsylvania history, the venture failed; and slowly the structures erected by the colonists were overtaken by the erasing forces of time and the elements.

Today, high on a bluff overlooking the wild ravine of Kettle Creek, Potter County, stand two flagstaves—one flying the Stars and Stripes, the other the cross of Norway. These colorful and symbolic banners were dedicated in 1952 to the memory of Ole Bull, truly one of the great romantic figures of the nineteenth century. Paradoxically, he used the financing powers of music to buy land in the rugged northern Pennsylvania territory, "so that my countrymen who have settled in the South shall know no more privation and hard-

ships, but shall have a new life in a new Norway, consecrated to liberty, baptized with independence, and protected by the Union's mighty flag . . ."

But alas! no flag could shield Ole's colony. For he had purchased the land from one John F. Cowan, and had received a false title to the entire tract bargained for—11,140 acres. Cowan, later described as being "able to steal bait from a steel-trap without springing the jaws," didn't own an acre of the land! Let us trace the beginning of this ill-fated attempt to establish a lasting colony . . .

Ole Bornemann Bull was born in the rather austere coastal town of Bergen, Norway, on February 5, 1810. By the time he was three, he let it be known that he was a born musician; and it is no exaggeration to say that by the time he was five he had mastered the violin without the customary benefit of instruction. Indeed, he refused to heed the advice of instructors, and soon he was re-arranging Norwegian folk tunes in any manner that happened to fancifully pop into his mind. He continued to ignore accepted techniques and practices in music. He went overboard to please the common ear, and when he played in 1828 in Oslo, he was described as a "typical country bumpkin with his fiddle tucked under one arm and his head filled to the scup-

pers with homely instructions . . ." By 1835, however, the story was different. He then became known as the "Prince of Violinists."

In 1843 Ole landed in New York. At that time he probably had thought little or nothing about the founding of a colony. For two solid years he played to standing room only from Boston to New Orleans and Providence to Peoria. But while he was enchanting people with his inimitable music, he was absorbing more and more of that certain quality which sets free Americans apart from all other peoples of the earth. He started to feel the moods of the pioneer. He found himself wanting to settle land, to lead, and to nurture all his dreams with an almost frightening framework of reality. Thoughtfully, Ole returned to his homeland in 1845. There he worked out his colonization scheme, and in 1852 he boarded a fast packet for America in search of a site for his new Norway.

Upon arriving in this country, however, he was greeted with such exuberant acclaim that he was tempted into going on a musical barn-storming tour that ended in Montreal the following June. Returning to New York, Ole sold his friends on the idea of a colony for immigrant Norwegians "in the American hinterland."

THE colony story soon got around, and it wasn't long before a small army of eager land speculators was camped on Bull's doorstep. Among them, certainly, were honest men. But it was Ole's luck to pick a dead-beat. For John F. Cowan was a smooth-tongued land huckster; but he disgraced his good hometown of Williamsport by selling land to which he had not a fragment of title of any sort. Those who were quick to criticize at once called Bull a "gullible fiddler," and an "economic dullard." But those who were sympathetic agreed that Ole was a trusting soul, and that the same thing could have happened to "any and all who tend to believe the words of God's speaking beings . . ."

Before he learned that he'd been victimized by a professional scoundrel, the big-hearted Norwegian helped get his colony settled, spoke encouragingly to the fatigued and distressed. He gave them a pep talk, too; and even composed and played a haunting melody which "reproduced the rush and roar of rapid streams, the frolic of the winds through the rocky glens, and the tempest's crash on the mountain top." Little did he then dream that soon a wealthy Philadelphian would come and tell him that he was the sole owner of every inch of the land! Cowan had successfully lighted the fuse which would blow Ole's dream-project to smithereens in what was recognized as a major swindle of the era.

Victor L. Beebe's *"History of Potter County"* says of the attempt to found a colony: "The colonists arrived in wagons from Wellsville. At first there were thirty, but more came, and finally the groups were so large that they could not be entertained in the hotels of Coudersport . . . Four villages were laid out: New Norway, New Bergen (Cartee Camp), Oleana, and Valhalla (Ole Bull's Castle) . . ."

The colonists were not well fitted for the work of founding a settlement in the wilderness. Many of them

fell sick, and there was much distress during the winter. Early in the spring Ole learned that a well-to-do Quaker held a clean-as-a-hound's-tooth title to the land his beloved colony occupied. The \$100,000 he'd paid for the rugged hunk of wilderness was gone like dry leaves in a holocaust. It is said that the Quaker, interested in the colony and the future it might enjoy, offered the land to Bull at a shockingly low figure. But Ole's purse was flat, and he was unable to rig up a paying tour of the music halls in time to rescue his dream-project from the maw of misfortune.

Soon he became discouraged and went away. So did most of the settlers. A few remained "on account of illness." Several descendants of the surviving settlers remaining in the "great forest county where Ole Bull shed tears when his happiness was wrested from him" are dwellers in Potter County today. There's little evidence left to show, however, that at one time, according to Lahee's *"Famous Violinists of Today and Yesterday,"* there were at one time nearly three hundred dwellings at the colony site, plus a church, a store, and of course Ole Bull's Castle. *Etude Magazine* for December, 1953, lists the all-time high in the colony's population at a little over 300. (The original Ole Bull Castle was torn down and the lumber used to build the Joerg House, while many of the stones were taken, according to Frank McLaughlin of Crossforks, Pa., and put to use in the abutments of a local bridge and in a stone house at Valhalla).

I am of the opinion that it is here appropriate to point out that Ole Bull was not wed so firmly to music that he possessed shallow interests in other things. For he was a sincere conservationist, and a naturalist in his own individualist style. He loved towering trees and racing mountain streams which held a kaleidoscopic wonder-world of flashing silver-pink trout. He loved solitude, and he was consistently guided by the unwritten law of good sportsmanship. He wrote the impressive "Solitude of the Prairies" after he'd made "a journey west." And it is said that he played in the open woodland to such an extent wherever he happened to be that the birds mocked him in a rollicking manner; and he, in turn, mocked them with such regularity that they sang differently where Ole played, "picking up the violin notes and holding fast to them in a riot of summer mimicry . . ." Little did he know during those magic, carefree hours that the frustrated and bitter remnants of his colony would one day drift to the Northwest and there establish what he failed to implant—the roots of permanent settlements for Norwegians!

NOR could he foresee the belated reason for commemoratives that would spring alive to honor him when time elapsed had almost made him a forgotten Pilgrim to American soil.

If Ole were alive today, I doubt that he'd be emotionally overwrought upon learning that a Pennsylvania variety of potato has been named in his honor. But he doubtless would be keenly moved by the fact that 150 acres of the Susquehannock State Forest was set aside as Ole Bull State Park in 1921. He might also like to know that there's an Oleana Township in Potter

County, and an Ole Bull Run, and a Lysoe Spring. (Ole died in Lysoe, Norway, in 1880).

Certainly he would be especially proud of the commemorative facet which, since 1952, has provided a regular Ole Bull Music Festival each year—an event that warmly recaptures the melody echoes of yesteryear in a modern hinterland. The location: Ole Bull State Park. The time, for 1955, October 15.

In 1952 a Centennial Celebration honored Ole when Miss Inez Bull, internationally known soprano and great grandniece of Ole, kindled the idea and had it approved by former Gov. Fine. At that time it was revealed that Miss Inez—after 15 months of research and the trained help of Mr. Jerome Bosworth, Williamsport—had located one of the very first violins that Ole owned. It had been lost to the family for 96 years—a genuine Maggini worth \$25,000!

On May 4, 1953, Inez Bull was asked to appear before the Pennsylvania State Legislature at Harrisburg, at which time a Bill was introduced calling for (1) the re-building of Ole Bull's Castle, and (2) the reactivation of the colony as a public music center, including provisions for scholarships for participants. Both proposals received favorable treatment. Thus Ole, in spirit with a purpose, returned to Pennsylvania. Miss Inez will turn the rebuilt castle back to the State as a museum, but she will treasure forever the Ole Bull Scroll which the Commonwealth gave to her during Pennsylvania Week, 1952. It is made of specially prepared Pennsylvania buckskin, and consists of 15 paintings, fourteen of which represent events in the life of Ole.

One of the spoken-word tributes of which Ole doubtless would be proudest is the brief address of the late Gifford Pinchot, who was Forestry Commissioner when he spoke at a tree-planting ceremony at Ole Bull State Park in 1921. Pinchot said:

"Ole Bull was attracted here by his love for forests and pure waters, where the mighty hemlocks remind him of the firs and spruces of his northern home, and the springs and streams of his native fjords. He is gone, and the forests are gone, and many streams are no longer pure, but by replanting and keeping the area

free from forest fires, we can recreate the memorial as he would have wished it.

"Here Ole Bull found his favorite tree, the red or Norway pine, growing naturally to his delight, and here will be set the first Norway pine plantation in his memory . . ."

It has already been stated that Ole liked to cater to the musical interests of the common ear, and I think it is fitting to bring to a close this historical profile-sketch with this insight into Ole's boyhood.

Helen Acker's "*Four Sons of Norway*" tells colorfully of the days when youthful Ole played for fishermen in his native land. He "stroked his violin in the market places, where there were strange passageways and quaint gabled roofs." He played on the wharves too. And many was the time when he traded a violin solo for a story brought back from the northern waters. It certainly would not be presumptuous to say that he early learned that it is not only streamside fishermen who can tell whoppers, for Acker's book narrates an account of a commercial fisherman who told Ole that: "In the North, each kind of fish has a King. Each King wears a golden crown. Birds cover whole islands like blankets, and whales have waterspouts on their backs. Some spout higher than the tallest houses!" . . . (Pennsylvania anglers, please do not adapt to one of your fishing jaunts. A modern Junior or Sis might feel you're putting an unfair strain on the framework of verity!).

* * *

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By Henry Lahee.

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"By now most people are acquainted with the well-worn saw that poor land makes poor people—both in numbers and quality. In time they will learn of such soil also that its deer and turkeys, its rabbits and quail, its coons and muskrats will be few, and frequently poor. In our present exploratory enterprise it will behoove us to get that well in mind. We are laying the foundation for a sound understanding of what is involved in growing wildlife crops for hunting, fishing, and—most of all—just enjoying. The story starts with the soil and, likely enough, comes back to it in the end."

DURWARD L. ALLEN, *Our Wildlife Legacy*



RETREATING BANK is steadily losing fight to keep soil where it belongs but this trout stream in flood periods snares sizable chunks each year. Stream bed in its own greed, becomes gorged and distorted with mud bottom. Aquatic and fish life also retreats.

Shrubs

help

save the

Sstreams

By DON SHINER

(photos by the author)



GET PERMISSION from landowner, talk sense to him, then take time out while fishing to cut a few willow shoots which, when planted in moist soil along banks, grow quickly.

NEAR my childhood home a small creek rambled through meadows and long stretches of woodland where I spent many afternoons swimming, wading, building small dams and waterwheels, catching crayfish under stones, chubs and trout in the pools. It was only a small stream, six to eight feet wide, 10 to 30-inches deep at the most, but the water was cold and crystal clear, with every stone and pebble showing clearly on the bottom.

I thought of the little stream many times but it was not until years later I revisited the creek.

POINT END of shoot for easy sticking. Carry a dozen or so with you.



TROUT FISHERMEN have good opportunity as individuals to stick a few shoots here and there where stream banks are badly eroded. The farmer will stop losing his top soil downstream and the fishing will be improved.



WILLOW LIMB with one or more off-shoots bearing leaves will usually take root and the root system will eventually help hold the soil where it belongs.



It had changed completely. I recognized the surrounding landscape; the tall northern ridge, the old red farm house and barn along the highway, the orchard at the end of the lane. But the character of the stream had changed into a stranger. I could not picture the pools and riffles as they had been. Hillsides and stretches of woods had been lumbered off; the meadows were cultivated now with crops of alfalfa and corn growing to the stream edge. Only a few scattered shrubs grew on the almost bare banks.

The stream had undermined the banks along its crooked route through the meadows. Big slices of earth had broken loose and fallen into the water, filling most of the pools with thick layers of mud. Rains washed more top soil into the creek and the dark clay eroded from the banks covered the stones on the bottom. Big mud bars extended back into the shallow eddies which once were dark pools filled with trout. Fish life was almost non-existent except for a few minnows. Aquatic insect larvae had long been smothered under the heavy mud deposit.

Farmers along the creek had pressed for production during the War years, farmed every available parcel of land. Trees were lumbered off to get the top dollar. With no vegetation to hold the soil firmly in place, the creek, swollen with spring rains and melting snow, gradually washed tons of soil into its choked path. The stream disintegrated into a mud filled ditch. And what happened here was happening across the state. Fence rows torn up and planted, hill-sides denuded of trees, fields cultivated to edges of creek banks have strangled creek beds with eroded soil.

Fishermen who witness poor conservation practices often condemn farmers. So did I when I saw the ruined stream where I played as a

boy. Yet, when one pursues the subject, he can not help the conviction fishermen should take a more active role in stream conservation. This group would enjoy benefits brought about through sound stream improvement practices.

Planting trees and shrubs along stream banks is good practice. Young willow limbs pushed into eroded banks will take root and hold the soil in place. Grasses will protect the banks until the young trees and shrubs get a footing. Gradually the stream may have a chance to rid itself of the mud bars and silt-choked pools.

Anglers should make an honest appraisal of the streams in their locality this spring. They should plant willow shoots or quick growing shrubs and bushes to hold back the soil where ugly gashes of raw earth extend to the water's edge, with of course, permission from the landowner. By so doing they're helping to correct a costly erosion problem that is threatening many streams throughout the state.

Where great damage has been done to streams, too great a task for a lone individual to tackle, sportsmen groups working with the landowners should consider it a challenge. The efforts of everyone working together will show up in the form of better fishing.

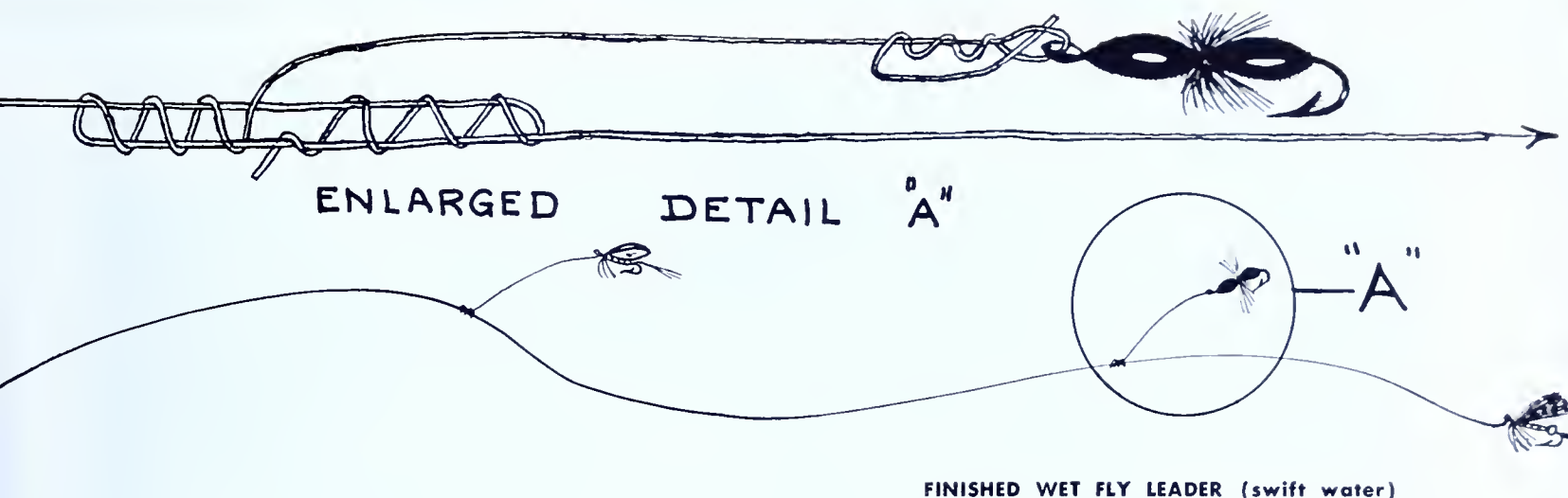
Fishing the wet fly

By CHARLES M. WETZEL

AFTER reviewing old American angling literature the writer was struck with the scarcity of information on how to fish a wet fly for trout. In the usual case, one or two cursory sentences described the art but in general everything else seems to be covered except the actual technique of how to do it. Here and there one reads about working the fly in a fancy and erratic manner, however, such methods are unnecessary, unproductive and usually scare more fish than attract them. In general they are written to impress the novice; how well they have done that can be seen on almost any of our trout streams to-

day. Some of the fancy methods now in use are spectacular and highly impressive to the tyro. But they seldom catch fish.

The writer fished the wet fly when a boy and at a time when dry flies were unknown. Then the dry fly made its appearance and the old reliable wet flies were put on the shelf for a period of almost twenty years. After the fascination of dry fly fishing wore off the old time wet flies were again tried and with such success that he has used practically nothing else during the past ten years. There's no mystery about wet fly fishing and no need of working the fly in a



fancy manner as advocated by some writers. The method used is essentially the same as that in vogue when I was a boy except that a few slight improvements have crept in over the years. The method is known as the natural drift.

Before getting into the matter of how to fish the fly, let's look into a few of the slight improvements that have been made over the years.

First of all contemporary wet flies are now tied with ringed eyes only and do not have the looped snell so commonly used years ago.

Two and three wet flies are still in vogue however, the leader is now tied with short droppers which replace the old loops formerly used. The method of incorporating the dropper with the leader is shown in the sketch. It's not difficult to tie such a leader—the knots are still the old timers except that one end is somewhat longer than the other when tying the two sections of gut or Nylon together; this long end serves as the dropper and replaces the old time snell. I have never seen this method in print before and it is a definite improvement over the old, bulky, bubble catching looped leader. After the snell becomes shortened it is a simple matter to tie in a new dropper.

I personally don't do a lot of changing flies on the stream. My casts are usually made up beforehand and I have a lot of them prepared and individually housed in cellophane envelopes. This method is particularly good for people with poor eyesight as trying to thread a fly when trout are breaking all around can be particularly exasperating.

The flies have not changed too radically over the years. The form is still the same—a few new types have come up—however, the main difference is in the matter of color. The old gaudy wet flies have been replaced with those of more somber hue in keeping

with the natural trout stream insects. The new, sober colored flies became fashionable shortly after brown trout were introduced into this country. These fish proved to be highly discriminating feeders and unlike the brook trout they just weren't going to be taken in by such gaudy creations as Parmacheenee Belles, Silver Doctors and the like.

And now let's get on to fishing the fly. Two methods are in common use; one for slow water, the other for swift. Both utilize the old time natural drift principle.

Fishing the Wet Fly (Swift Water)

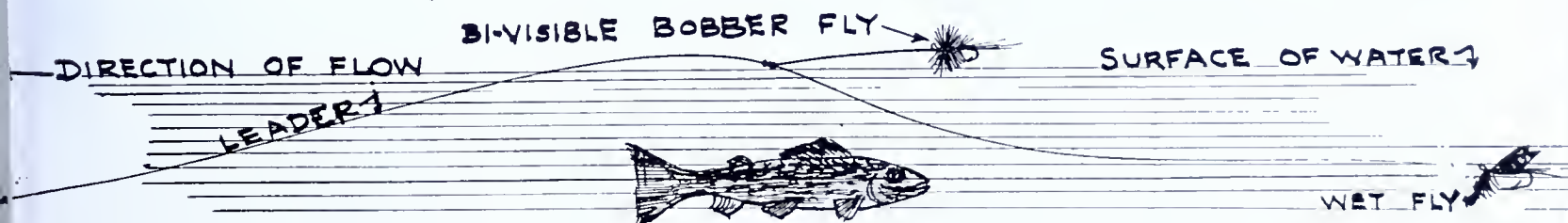
Fish downstream casting your flies slightly farther down than directly across the current. If the water is very swift, check your cast in mid air so that the flies flutter down on the water with a lot of slack line. The principle is exactly the same as that employed by the dry fly fisherman when he seeks to avoid drag. The slack line will permit the flies to sink quickly, deep down into the water. I prefer this method to an upstream cast since slack will be more quickly taken out of the line, thereby achieving better control.

Now let the flies drift downstream naturally with the current. Impart no motion whatsoever but follow with your rod tip the course of the flies as they tumble down stream.

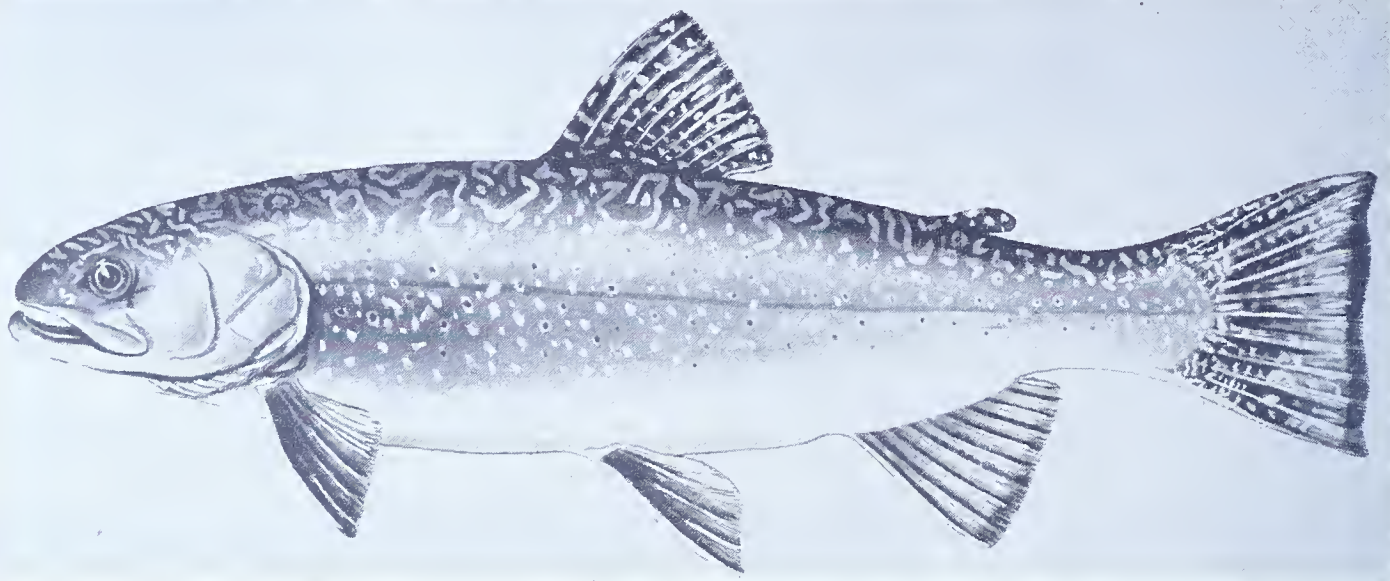
Following the flies with the rod tip should probably be expanded. The rod is constantly held high in a position comparable to eleven o'clock; and the movement in following the flies is so slow and slight as to be scarcely perceptible. When you judge that the flies are over a locality where a trout may be hiding the downstream course of the rod tip is stopped; the swift water striking the stationary line causes it to become taut and the flies, acting very much alive, are then pulled upwards towards the surface. This is

(Turn to page 18)

FINISHED WET FLY LEADER (slow water)



Pennsylvania Fishes



BROOK TROUT (*Salvelinus fontinalis*)

THE Brook Trout is one of the most beautiful and widely distributed of our American trouts, and a native of Pennsylvania waters. Often called Spreckled Trout or "Brookie" locally.

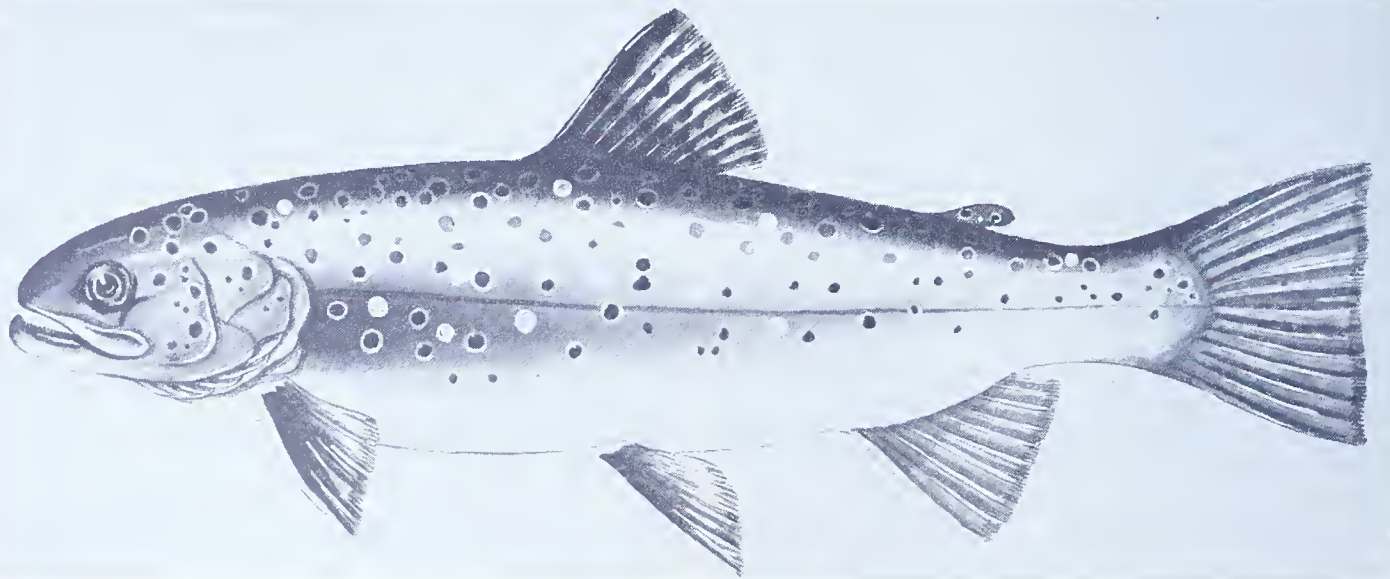
RANGE: From Georgia north to Labrador and west to Saskatchewan.

CHARACTERISTICS: The Brook Trout is actually a charr and not a trout, due to the bone structure of its mouth. Scales are so small they are hardly visible to the eye. Tail is square, rather than forked. Front of lower fins and the lower edge of tail have a distinctive white border. Sides are sprinkled with red spots.

HABITS: To survive successfully, Brook Trout must have colder water than necessary for other trout. They spawn in the fall, depending on section of the country and weather conditions. Female prepares nest by scooping out depression slightly longer and wider than her body. After eggs are laid, the male and female both fertilize them, the female covering them with sand and gravel. Nest is then deserted and eggs hatch from 7 to 8 weeks depending upon water temperatures. During spawning season, the males develop a hooked lower jaw.

FOOD: Flies, worms, insects, small minnows, nymphs, crustaceans and mollusks.

LURES: Wet and dry flies, spinner and bait combinations, spinning lures and small plugs, worms.



BROWN TROUT (*Salmo trutta*)

The Brown Trout was introduced into this country from Europe during the past century and is often called the Loch-Leven Trout or German Brown Trout. It is the favorite trout with anglers floating the dry fly.

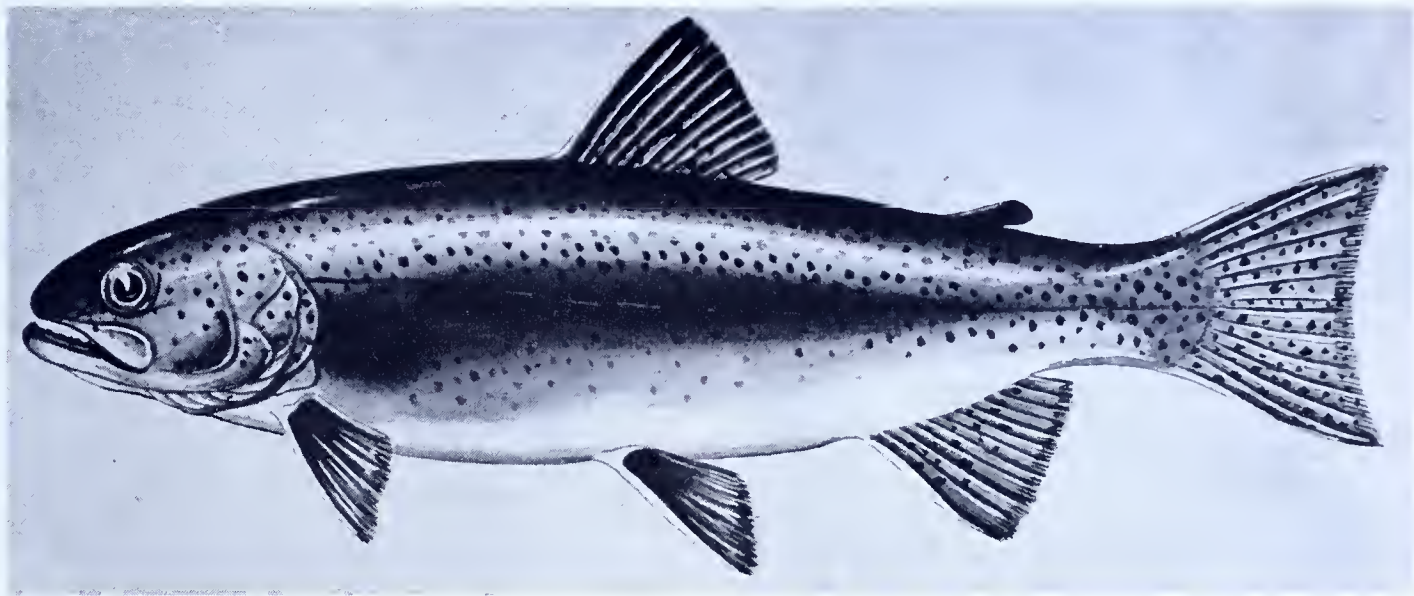
RANGE: Almost world-wide. In this country found in Canada and in almost every state except in southernmost regions.

CHARACTERISTICS: The color of the Brown Trout varies with waters and water conditions. It is of a general overcast dark brown with olivaceous cast along back and upper part of sides. Along the back, it is heavily marked with black and brown spots and on the sides with black or brown and red spots. It has rather large scales and an overly large adipose fin. The red spots on the sides are encircled by light rings. Older male fish develop an extended and hooked lower jaw.

HABITS: The Brown Trout is the most wary and cautious of all the trouts. It can live in warmer water than brook trout and despite the inroads of civilization, seem to hold their own better than many native trout. Spawning takes place in the fall. The female prepares the nest, a hole in the gravel bottom of the stream. The pit she scoops out is usually larger than her body. Into this, with the help of the male the eggs are deposited, after which she moves upstream and churns gravel down to completely cover the eggs. Eggs hatch in from 4 to 5 weeks depending on water temperatures.

FOOD: Flies, insects, crawfish, worms, minnows.

LURES: Dry and wet flies, streamers, fly and spinner and worm and spinner combinations, spoons, small plugs.



RAINBOW TROUT (*Salmo gairdnerii*)

The Rainbow Trout is frequently referred to as "steelhead" (scientists now agree the steelhead and Rainbow are one and the same fish). It is a beautiful fish with a decided yen for taking to the air when hooked, a most pleasant thrill to any angler, anywhere!

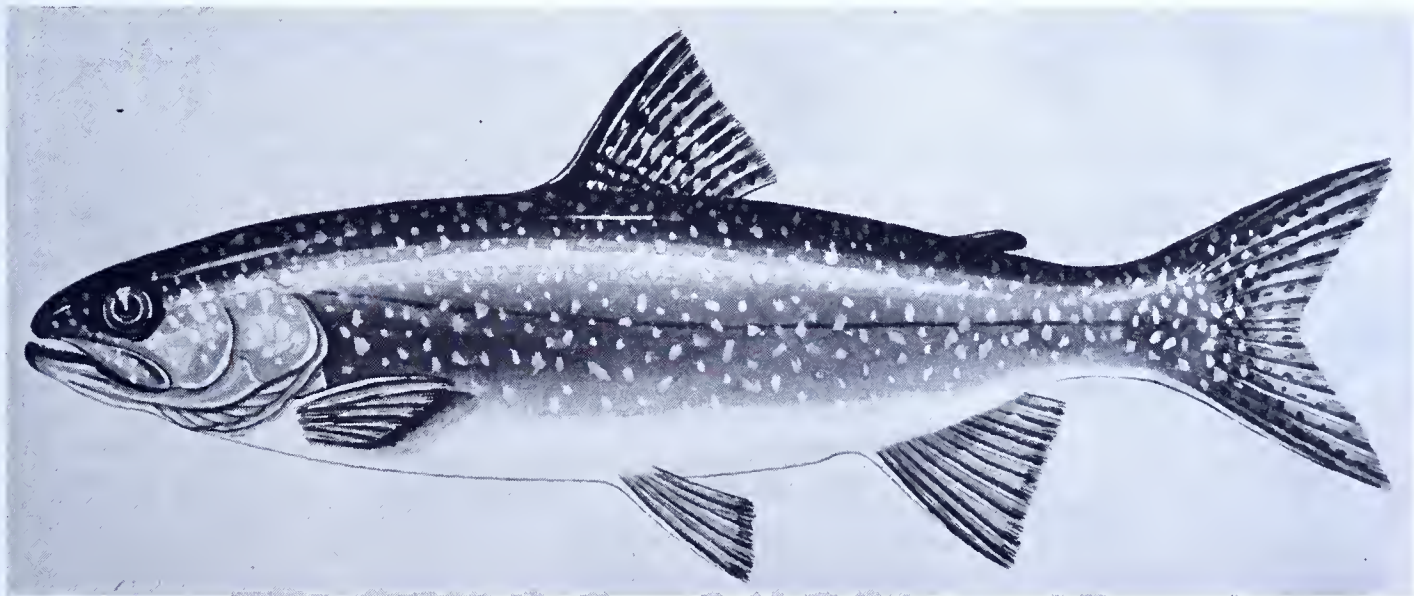
RANGE: Originally found only on the Pacific slope of the Sierras from California to Alaska, it has now been introduced into nearly all states, except those bordering the Gulf of Mexico.

CHARACTERISTICS: A more or less distinct lateral band of lavender red runs along the sides from head to tail. Aside from these characteristics, the Rainbow can be distinguished by the lack of colored spots and the heavily black spotted body and tail. It can survive warmer water than any other of the trouts, one reason for its wide range.

HABITS: Rainbows prefer fast, turbulent waters. In streams they will be found in stretches of swift-flowing water, rather than in the slow water of pools. Spawning habits differ little from those of other fish and takes place from late winter to late spring depending on locality. In water temperatures of around 45 degrees F. the eggs hatch in about 48 days.

FOOD: Flies, insects, worms, minnows, crustaceans, salmon eggs and smaller fishes.

LURES: Wet and dry flies, streamers and spoons, small plugs.



LAKE TROUT (*Salvelinus namaycush*)

The Lake Trout inhabits several of Pennsylvania's deepest lakes such as Harvey's and Crystal lakes in northern part of the state. Anglers often refer to them as "fork tails". They are one of the largest freshwater gamefish.

RANGE: From Labrador, Hudson Bay and Alaska south to the Great Lakes region and New England.

CHARACTERISTICS: Lake trout are closely related to the Brook Trout and Dolly Varden Trout, have teeth on the roof of the mouth. The body is covered with light spots on a dark background. The dark grey with an olive overcast often varies according to the nature of water inhabited.

HABITS: Lake Trout thrive only in lakes where water temperature seldom goes over 65 degrees F., prefer water between 40 and 50 degrees F. Seldom found in water less than 40 feet in depth. Lake Trout spawn in the fall, usually depositing their eggs, which sink on rocky underwater reefs; but they will at times deposit them in shallow water which has a gravel bottom.

FOOD: In shallow water—flies, insects, crustaceans; in deep water they will feed on smaller fishes.

LURES: When in shallow water during fall and spring, minnows, flies and spinners of large sizes also large plugs. Deep trolling close to the bottom is called for in summer.

the time when the trout hits the flies or a little later when the leader is straightening out. There are a lot of good wet fly fishermen who complete the drift, that is, they do not stop the rod and bring the flies to the surface until the leader has straightened out directly below where they are standing; then again, there are others who bring the flies to the surface two and three times before the drift is completed. In all cases hold the flies taut and stationary for at least twenty seconds before lifting them from the water for the next cast. It is surprising how many trout take the fly after it has straightened out and is waving back and forth laterally in the current.

Unlike slow water fishing one is hardly ever in doubt when a trout hits the fly; they do it with a slashing strike that is really something to feel. One seldom notices the fish take the fly because it is sunk so deeply. Many anglers breaking into the wet fly game get plenty of strikes but hook few fish. This is caused by not holding the rod tip high enough in the air. Keep it always at the eleven o'clock angle; and then when a trout hits the fly there will be enough spring in the rod that the hook will be automatically set. Another reason for not hooking trout and holding them can be blamed on heavy striking. Trout hit the wet fly so hard that instinctively one sets the hook with a sharp hard jerk tearing the fly from their mouths. This is definitely wrong and can only be corrected by exercising self control. Learn to hook the trout by a mere turn of the wrist; if this is not possible, then get the softest action fly rod procurable—one that bends easily clear down to the grip.

Fishing the Wet Fly (Slow Water)

Trout can be caught with the wet fly in slow water using the method described above; however, a much more successful way is the following:

Fish upstream similar to dry fly fishing. Make up the cast similar to that shown in the sketch. The dropper fly should be a bushy affair—one that floats well—such as a Bi-visible. Trout will quite often be taken on this, however, it's main function that of a float since it registers when a trout takes the point or submerged wet fly.

In slow moving water, trout take up a position where the current carries down an unusual amount of insects. Here they lie—a foot or so under the surface and rarely move from this location; they move upwards only to take the floating flies carried down on the surface; to right and left when they take a nymph or submerged wet fly carried down by the water. In this position the trout's movements are slow, deliberate, and unhurried and he rarely moves more than a foot from this location when taking his food. Neither does he hit it with a bang and run away with it like a trout in swift water, but he swallows or spits it out if not to his liking with a very slight movement.

To verify this, watch some of the trout feeding in slow water at the famous Fishermen's Paradise on Spring Creek. Drift your wet flies over them in the usual downstream cast and nothing apparently happens; yet if one watches closely one can see the trout move slowly to right or left and take the fly, spitting it out—and all with a movement so slight it is hardly recognized.

Now get below the fish. Cast your flies upstream and retrieve the slack line with your left hand similar to dry fly fishing. Keep your eye on the Bi-visible bobber; as it comes floating downstream watch when it stops or starts moving in another direction—then strike!

The method is highly productive. Try it sometime and be convinced.

Still water trout

By **ALBERT G. SHIMMEL**

ONE of the most exasperating experiences an angler can have is to come upon a picture pool, well marked by the rings of feeding fish and after much careful and deliberate effort be forced to admit he cannot fool a single trout. Many have been unsuccessful so often that they deliberately pass up these still waters for the easier fishing of the pocket waters where the broken surface is more productive. They do this with the full knowledge they are by-passing many of the best trout in the stream. To the true angler, difficulties only add spice to the problem and he will continue until he arrives at some solution. The results of these

studies is often a trophy-sized trout. There is no master formula, by which the problem of the still waters may be solved but there are circumstances that will give the persistent angler enough thrills to pay for the hours and time expended.

With the increase of beavers there is an abundance of small ponds that range from a few square yards to several acres in area. Many of these ponds have trapped a number of native brook trout as they moved up into spring waters to spawn. These spawners, together with their offspring have, on occasion, found an abundance of food, water, to their liking and have grown to con-

siderable size. The problem is to take them from the clear glassy-surfaced ponds where every movement of the angler is visible and the fall of the lightest leader is enough to send the trout scurrying for cover.

One method of taking those trout is to approach as low and as quietly as possible. With a side cast lay a small well saturated wet fly or nymph at the end of a long leader out toward the center of the pond. Allow plenty of time for the fly to sink to the bottom and at the same time for the trout to recover from their fright. Then being careful to keep out of sight as much as possible retrieve the fly a few inches at a time making it creep slowly across the bottom. Brook trout are partial to black and take a small Black Quill or Black Gnat readily. Black flies have the advantage of being more visible to the angler when fished below the surface. Certain nymph patterns that have dark backs and soft partridge hackles that have good action in the water are also effective. The imitation Caddis Worms are sometimes better than any other lure.

TROUT of the beaver dams rise rather freely to the tiny black midge that are over the water in numbers on warm summer evenings. Occasionally the trout take an imitation rather well if it is tied small and fished at the end of a long fine leader with a minimum of disturbance. The results however are generally disappointing because the trout seem to take the active flies as they hover in tiny swarms just above the surface and ignore those that are floating on the surface. There is a good pattern of fly for this surface fishing that came into being rather by accident. A certain sports writer wrote concerning the effectiveness of an English sea trout pattern, Teal and Red when tied as a dry and fished over brown trout. Some of my pals read the column and demanded specimens. It so happened that at the time I was tying midges in sizes eighteen through twenty-two. It was only natural that I tie several Teal and Red in these small sizes. They were put in the midge box and promptly forgotten.

A year later a freshly cut aspen stick at the place where a small side stream led into one of my favorite pools led to the discovery of a rather large pond. There was a hatch of midges and several good trout working the surface. An hour later the trout were still rising and not one had even looked at my smallest flies. At my feet a midge pupae floated to the surface and a few seconds later the winged adult emerged. As I watched several more floated up within a few feet of where I sat. When I scooped a specimen into a collecting bottle I noticed the bright red abdominal segments and the darker thorax topped with tiny whitish respiratory filaments. Immediately the Teal and Red midges came to mind. A drop of oil on the wings and the rest of the fly dampened to make it float in a vertical position at the surface and the cast was made to the nearest rise. A red finned brookie swam up and after a moment of critical inspection took it. That I lost him among the logs and bottom debris did not matter, the problem had been solved. Since that time I generally try this pattern first and am successful often enough to keep a generous supply of flies in my kit.

For those who wish to make this fly, this is the dress-



ing: Hook size—18. Wings.—Teal set in an exaggerated forward position (at least 45 degrees). Body—rear two-thirds of red silk wrapped halfway down the bend. Top third of dark peacock herl. Hackle—smallest red available but better if tied with gray grizzled.

There are times where a tiny Gray Hackle Red is killing. This is strange when we consider the fact most of our eastern trout are not partial to red as a color.

As a sidelight to this pond fishing, it will be observed that the trout caught here whether they be browns, brooks or rainbows will be the most brilliantly colored specimens found anywhere.

On one of the larger streams of the northern tier is a pool that is at least 200 feet long and half as wide. The depth ranges from a foot and a half at the tail to 15 or more feet at the head. The head of the pool has a few rapids but they disturb the surface of the pool very little. Day after day this pool is fished by different anglers. Few trout are caught and the native anglers rarely stop. Many of the trout feed near the center of the pool and as soon as the surface is disturbed by casting or wading they stop feeding altogether. One evening a gusty breeze ruffled the surface at intervals. A hatch of gray caddis flies was in evidence. The breeze blew these clumsy fliers to the surface and when the period of calm followed the fish gathered the struggling insects at their leisure. Taking advantage of the breeze I waded out within casting range of the nearest rise. The calm brought a rise and just as the surface was disturbed again I put the fly over the nearest trout. He took without hesitation. A number of trout and an 18-inch bass were taken in that evening's fishing. It was almost too easy.

Lest you think these problems always have a happy ending for the author let me tell you of the rainbow that lived in one of the still pools of a favorite stream. He was of such lordly proportions that I coveted him and drove a half hour several times a week for almost a month to pay my respects and offer the finest flies I could make with all the tricks I could command, but he would have none of them. One evening as I sat hopefully beside the pool while the hatch developed, a family of out-of-state tourists drove up and parked nearby. A noisy, ambitious lad of perhaps a dozen years set up a heavy fly rod, attached a short leader and then tied to it a big chenilled bodied bass fly in orange, black and brown. With the effort of a big leaguer trying for a homerun he derricked the conglomeration in the general direction of the pool. It fell in a coiled mass and

floated for an instant before the slow current caught it. There was a splash and a heave, then the youngster let out a yell, threw the rod over his shoulder and made for high ground. The mad scramble did not stop until the fish was a full hundred feet up the hillside from the stream. When the trout had subsided to a feeble tail quiver the other four members of the family gathered round to view the remains. The sister came with the camera but the boy objected.

"Don't waste that film, this'en ain't half as big as that pike I got last week in North Bay."

Such incidents leave the angler with a deflated ego and a sense of frustration that makes him feel like taking up knitting, basket weaving or some equally thrilling pastime.

There is a pool that is comparatively shallow and smooth of surface with a shore line so free from vegetation that it is almost impossible to approach it without the trout scurrying for cover. Cool springs seep up through the bottom gravel. Midges and caddis flies furnish insect food at the surface. Trout aplenty move into this pool in late season. There is only one method that produces fish for the author and then only one fish at each visit to the pool. By crawling on hands and knees to within long casting range and still keeping low, a small dark wet fly is cast so that it sinks to the bottom within a

few feet of the bank and with most of the leader resting on the gravel. After waiting long enough for the trout to get over their fright and move back to their positions the fly is moved slowly over the bottom of the pool toward the shore. Invariably a trout will swim over and pick it up. Never have I been able to tempt a second trout the same day.

A friend, who is a keen angler and a close observer, spots the lair of big trout by watching for the pools that do not show any surface activity during a general hatch. These spots are cataloged for future and closer observation. When these observations lead to the belief that here is the home of a large trout that has driven others from the pool my friend plans a general campaign that usually leads to the securing of the fish. Such specialization is beyond the patience of most anglers but it does lead to some surprising results.

Dry flies dressed for still water should be sparsely dressed and as near natural size and coloration as possible. Wet flies should be made with the softest materials obtainable to get a maximum action with minimum movement. Soft partridge and grouse hackles are excellent as are the hackles from guinea fowl.

If the pleasure in accomplishment is in proportion to the obstacles overcome you will try for the trout of the still water.

Roll 'em

By RAY OVINGTON



BEGINNING of roll cast. Raise rod tip up sharply as for conventional cast but quickly halt rod at the peak. . . .



BRING ROD down sharply and line forms a wide bow or loop. Note that rod's action is brief and power of cast transmitted solely to line.



WHOLE OPERATION takes place in front of you so cast can be used when hemmed in rear by bushes or trees.



LOOP formed by quick downward thrust of rod looks like this from the side. Note that power in loop is lifting terminal end of line in preparation for snapping it straight out in front.



MEND CAST, a sideways variation of the roll cast is started here. Note direction of the loop. When terminal end of line is whipped up and out, it will land 15 to 20 feet upstream or to the right.



HERE IT IS headed upstream to float down over position of trout below.

MANY anglers can do a workmanlike job of the conventional forward and back fly cast and catch fish but few can execute a good roll cast. After I finally mastered the roll cast with a suitable degree of proficiency, I realized that had I been able to execute this cast all those years before, I would have taken some of the hard to reach trout, bass and other game fish I had been forced to pass up!

The roll cast you will find is even more simple to perform well than the conventional cast and for sure, once you get the knack, you'll use it under many circumstances and in situations that would have previously had you licked.

The roll cast first and foremost is used where there is no back cast room. Perhaps you are facing across the stream trying to reach a riffle on the far side. You can't wade to a position above or below for one reason or another so you must try and reach it from the side. With restrictions of overhanging trees, brush or a bank behind you, you are literally out of business unless you resort to the roll cast.

When you want to work an area of a stream with repeated quick casts and short retrieves yet do not want to take the time to strip in line and false cast, the roll cast is the only answer.

If you are facing downstream nymphing over a feeding trout and want to keep the fly constantly in his area, the roll cast will let you do just that and, incidentally, without the line slap of the conventional cast.

Suppose you are fishing from the bank . . . trees and brush make almost any cast other than a "drop in" all but an impossibility . . . the roll cast is the cure for this ill, hands down.

OK . . . so what's with this roll cast business?

Let's start with the first step and follow through one complete cast and you'll see how easy it is.

Step one is to get your line out on the water. Practice downstream first to make it easier for learning. Now, with about thirty feet of line and leader strung out on the current, you prepare to make the roll cast thusly:

Raise the rod tip slowly and evenly to the vertical. To aid in elevation, raise your arm up too, making the rod a ten footer now instead of an eight footer. When you have reached as high as possible, sharply snap the rod tip down until it almost touches the water. This will create a loop in the line and the power of your downward switch will transmit itself along the line through the loop which in turn will draw the fly toward you, up and out of the water

and, because of the action in the line, it will shoot forward and away. Follow me?

It's a simple action . . . merely let the line straighten out in front of you, raise the rod tip sharply now, with a little more force and before the line sags in the air, from a wide loop in it by bringing the rod tip down just as sharply. The loop will lift the fly from the water and deposit it straight out. When executed properly, little fuss will be made on the water and none of the disturbance will occur over the area you are fishing. The fly will settle light as thistledown and be fishing instantly.

To roll cast slightly to the left . . . raise your rod first out toward the right and bring it down sharply to the left and the loop will pick up the line and drop it well to the left. Reverse the situation if you want to work the fly to the right. The mend cast is but a modification of the roll cast and is used when you want to switch the position of your fly well up or downstream from where you had been previously fishing it. This enables you to fish a wide area of the stream without having to change position.

The roll cast is made for bug fishing as well as conventional fly fishing. Also, it can be used fishing worms or bait if you are lightly rigged for drift fishing. One of the best tricks in bass bug fishing is to control your roll cast so that the fly leaves the water to plop down again a few feet away. Keep it dancing and even the most sophisticated old trout or bronzeback will not think twice before falling for this ruse.

The roll cast comes in mighty handy when you are bucking a strong head wind. Roll 'em into the wind brother or you might as well quit and go home.

The accompanying pictures illustrate just how the cast looks in the air from the pickup through the peak of the movement. Try the roll cast next time you are in a tight spot and when you get to know all its variations you will have added another valuable string to your fly fishing bow.

Still-fishing with spinning tackle

By **GAYLORD M. CONZELMAN, JR.**

STILL-FISHING for crappie, bluegill and other pan fish is undoubtedly one of the more popular pastimes of the nation's fishermen. Variations in tackle used for this universal sport are probably equal to the number of fishermen, and although most of these fishermen would consider their rig the best on the lake, few would not agree that the ideal still-fish-

ink tackle would include the following: (1) a light "whippy" rod, 7-9 feet in length; (2) a free fast reel; (3) an invisible thread-like line; (4) the lightest possible bobber designed to allow convenient casting but also accurate positioning of the bait at a predetermined depth; (5) a minimum amount of lead weight attached to the line; (6) a straight eyed hook. Spin-fishermen

will recognize some of these units as basic parts of their everyday tackle.

A light-action spinning rod is a natural for the first requirement of our "tackle ideal" since it allows a light bait to be cast with ease and accuracy. It also gives the scrappy pan fish a chance to show their fin-power at the end of the line; this appeals to the fishermen who enjoy still-fishing but find the stiff cane pole or a stubby casting rod out of balance with their quarry. Most light-action spin rods, 7 ft. 9 in. in length, when matched with a suitable open-faced spinning reel and monofilament line (2-6 pound test) will prove satisfactory. It is well to remember that most fish caught by this method weigh under five pounds and that lighter equipment is not only more sporting but also more fun.

The next unit of our "tackle ideal", the bobber, deserves special attention. It is imperative that the bobber offers the least resistance to the biting fish since crappie and certain other fish refuse even the most attractive bait if they detect resistance after a trial nibble. Large South American porcupine quills, which have long been used by expert fishermen as the bobber *par excellence*, are to be recommended especially if rigged as described below. While not usually sold by local tackle stores, these inexpensive quills are available from tackle suppliers. A sliding bobber, 7-9 inches in length, is easily constructed from one of these quills by attaching two wire loops which act as line guides (see photo). Guide A is a loop of fine nichrome or stainless steel wire (24-26 gauge) secured to the pointed end of the quill with fine nylon or silk thread. Guide B, also made from 24-26 gauge nichrome or stainless steel wire, is fashioned to look like a small rod guide with a ring diameter of about 1/32 inch (conveniently measured with a #20 wire brad). Guide B is also attached to the quill, approximately at the midpoint, by wrapping the feet with fine nylon thread. The wrappings should be covered with a thin coat of rod varnish or clear lacquer. If desired, though not recommended, the blunt tip of the quill may be painted red or white to make it more visible on dark water. The bobber, when completed, should have the appearance of a miniature casting rod with one guide and a tip top.

As a "bobber-stopper", ordinary dental floss has been found to be most satisfactory. The waxed floss, when wrapped several times around the line and tied with a square knot, passes through the rod guides easily, but can be positioned by sliding it up or down the line. Tying a piece of rubber band onto the line in such a way that the two free ends extend at right angles to the line may also be used as an effective "bobber-stopper".

Only split-shot of size 3/0 or smaller should be used for weight and then only in quantities sufficient to carry the line and bait to the required depth. Excess shot will of course submerge the bobber. The shot should be pinched on to the line 12 to 18 inches above the hook. Rubbing the last several feet of the



terminal monofilament line with a piece of ordinary grit soap will reduce its water resistance and allow the bait to sink more rapidly.

Straight eyed hooks of sizes suitable for quarry are usually preferred for still-fishing. Long shanked hooks facilitate removal from small mouthed fish, i.e. blue-gill.

Having assembled this "tackle ideal" in the following order: hook, split-shot, quill-bobber, bobber-stopper (see photo), the next step is the casting technique. It will be noted that as the line is retrieved in preparation for the cast, the quill-bobber continues to slide down the line until it comes to rest at the shot-sinker. This feature allows the cast to be made with only 12 to 18 inches of free line at the rod tip. After the cast is completed, the line is allowed to flow through the bobber guides until the lure reaches the desired level, as predetermined by the position of the "bobber-stopper". In some cases it may be necessary to open the bail to provide additional line; on the other hand, a slack belly of line between the bobber and rod tip is, of course undesirable. When a fish is hooked, the sliding feature of the quill allows the fish to be brought to the net without hand-lining. To assure trouble-free casting, the quill-bobber, together with the rest of the terminal tackle, should be inspected each time a fish is brought to the net.

It is hoped that each fisherman will be able to modify or improve this basic outfit to best fit his personal preferences and fishing conditions.

*You may burn Your own bridges but don't
burn Your forests behind you!*



C Conservation

Rainbow Sportsmen Present Interesting Program at Franklin

The Franklin, Pa., High School auditorium was filled to capacity recently for a program presented by the Rainbow Sportsman's Club and the Re-Arm Sports Center.

The program opened with selections by the local chapter chorus of the Society for the Preservation and Encouragement of Barbershop Quartet Singing in America, which did a fine job under the direction of leader Carl Hedglin, Jr.

The following films were shown: "Pacific Sails", through the courtesy of Montague—Ocean City Rod and Reel Co., assisted by Evinrude and Cortland Line; "Forever Angler," courtesy of Wright & McGill Manufacturing Co.; "Fishing For Trout in Chili," courtesy of Shakespeare Manufacturing Co., and "Showman Shooter," by the Winchester Arms Co. Robert Parlaman, public relations officer of the Pennsylvania Game Commission, was the projectionist.

Harold Solomon, district fish warden, gave a brief talk on the stocking problem and the changes in the 1956 fish laws.

Earl V. Hoffman, president of the Rainbow Sportsman's Club, was the master of ceremonies and introduced various guests.

Aliquippa High School Conservation Club Active

To the members of the Conservation, Fishing and Hunting Club there is never a dull moment. The 241 members are constantly learning the values of conservation and trying to convert their learning to the Beaver County area. The club is closely affiliated with the Bucktails, which recently paid for the student's dues in the Beaver County Sportsmen's League. Badges and membership cards were distributed to the club members. Classes in gun safety and archery are available to the members of the CFH Club. For Christmas, the club donated toys to the Rochester Salvation Army. Quip buttons are now being sold at the basketball games to aid the club's treasury.

On Friday and Saturday, February 3 and 4, the Wally Tabor show, sponsored by the Bucktails, was presented in the high school auditorium. Mr. Tabor showed colorful movies of Alaska and Africa. The sale of tickets for the show was undertaken by the CFH Club.

The CFH Club has undertaken their yearly project of boxtrapping rabbits for the Pennsylvania State Game Commission. The project is under the supervision of Mr. Lawrence Blaney, club sponsor, Bob Mandich, club president, Alfred Baker, boxtrapping chairman, and Stan Stickles, outdoors chairman.

In Pennsylvania



MAYNARD BOGART

Appointed Eighth Member of Fish Commission

Maynard Bogart, farmer-sportsman, of Danville, R. D. 2, has become the eighth member of the Pennsylvania Fish Commission. His appointment by Governor George M. Leader on January 16, 1956, and confirmation by the Senate on February 29, 1956, establishes a full board for the first time since the fish laws were amended in 1949 to provide for an eight-man body. Also it places a farmer on the Commission for the first time in no less than forty years.

As was the case with each of his six contemporaries who were appointed earlier by Governor Leader, the Montour County farmer enjoys wide endorsement among the sportsmen of his district, which includes Tioga, Lycoming, Union, Snyder, Bradford, Sullivan, Columbia, Montour and Northumberland Counties. Sportsmen throughout the State were likewise in accord with the prospect of a farmer on the Commission. And to a man, the present Commission welcomes the newcomer and the viewpoint he can contribute to its affairs.

Mr. Bogart works his hobbies of fishing and hunting as he does his 153-acre farm. That he is a sportsman's farmer is indicated by the ready access he maintains to the portion of Mahoning Creek, Montour County's only trout stream, that courses through his farm, and the 14-car parking lot he has set aside for visiting anglers. He likewise has always taken great delight in assisting in the stocking of trout, come fair weather or foul.

His years are laughingly referred to as growing with the century. He was born in 1900 on a farm in Columbia County, where he lived and farmed until 1933, when

he moved to Montour. In 1940 he purchased his present farm. Nor have his contributions to mankind been limited to things of the soil. Mr. Bogart is the father of seven—five girls and two boys.

The new Commissioner served as a township school director for 5 years, and is currently in his second term as tax collector in Montour County's Valley Township. He is a member of the Union County Sportsmen's Association, The Fishing Club of America, The Loyal Order of Moose of Danville, and is a deacon in the Maudsley Reformed Church. He will serve in his present capacity with the Fish Commission until the second Tuesday in January, 1964.

Youth Education

From all the latest reports the Fishing School and the Junior Rifle Club of the Delaware Co. Field & Stream Assn. are both doing a grand job for the Association's junior members.

The rifle club now boasts of 52 members and they have already had several Thursday night practice sessions at the Yeadon High School indoor range. Safe shooting methods and marksmanship are being taught under the tutelage of Phillip Kloss and N.R.A. instructors; H. Kenneth Lake, Jr., Upper Darby and Austin Williams, Springfield. Shooting hours on Thursday evenings are from 7 P.M. to 9 P.M. Since one of the doors opens into the rifle range, entrance to the ranges are securely locked after 7:15 P.M. No one will be admitted after this time. After a month or so the club will be formally organized. The youngsters will elect their own officers and hold regularly scheduled meetings and shoots. If you are a junior member and interested please contact Mr. Phillip Kloss, Box 13, Norwood, Pa.

The Junior Fishing School classes headed by Art Clark and J. Kenneth Manning are now in full swing. Thirty-two boys are being put through the paces in good fishing methods and up-to-date fly tying practices. Already the whip finish and best fur feathers and steel for artificials has become easily understood by these youthful fly-tyers.

The sponsors of the boys fishing school is grateful to the Eyer's Sport Shop and Taxidermist William Biedermann for their contributions of fly tying materials. The boys could still use some more fly tying vises and small pairs of scissors. If you have any lying around gathering cob-webs, please contact Ken Manning, Clearbrook 9-1331.

When the natural resources of America are all used up there is positively no place on earth where we can borrow more.

—GWF



C Conservation

Family Fishing

United Press recently circulated this item, datelined University Park, Pa., and confirming what we have stated several times in past *Bulletins* (we noted it in *The Indianapolis Star* for December 12, 1955):

"Leisure time can be a liability unless it's spent constructively on hobbies and other recreational outlets, according to Fred M. Coombs, professor of physical education at Penn State.

"For the first time in history, the average worker in America now has more leisure time than working time, he said, adding:

"And this can lead to a degeneration such as has befallen nations of the past which have achieved great amounts of leisure time for their peoples."

He recommended that persons with time on their hands interest themselves in hobbies, preferably those calling for participation. He particularly recommended family hobbies and leisure time activities because "the family that plays together, stays together."

We would like to suggest to the good professor that there is no better form of family participation outdoor sport than fishing. At the same time continued growth in angling participation and interest (now shared by 30,000,000 or more Americans) will help more than any other one thing to assure that our renewable natural resources will be managed for the best interests of a mentally alert and physically fit America—through proper management required to provide needed good fishing.

Anglers' Award

The Anglers' Club of New York bestowed its first Gold Medal of Honor on Dr. Durward L. Allen, of Purdue University, for the outstanding service he has rendered to conservation through his book *Our Wildlife Legacy*. This is a well deserved award, and Dr. Allen's selection as first recipient is testimony to the high standards set up for its bestowal.

The medal will be awarded by the club at least every five years to encourage outstanding service in the fields of conservation, ichthyology, and the sport of angling. Selection is by a five-man jury appointed from the club's members.

Lifetime Value

Good sense from Dan Sauls, Editor of *Missouri Conservationist*, noted in a recent issue of *Plaid & Khaki* (Detroit):

"... at the risk of being disloyal to the sports sections of the free American press, I'm wondering—not suggesting, just wondering—if a course in plug casting or gun handling wouldn't prepare our American boyhood for life just as adequately as football casting or basketball handling. Seems to me that acquired skill might be more useful after boyhood has become manhood, might even teach a man or woman to live with themselves better than they would learn by watching matched teams beat each other's collective brains out."

This kind of thinking lies behind the commendable new program of the American Association of Health, Physical Education, and Recreation (National Education Association) to encourage school instruction in the use of fishing tackle and in gun handling. The program is sponsored jointly by the Associated Fishing Tackle Manufacturers and the Sporting Arms and Ammunition Manufacturers Institute.

Record Fishes

The 1956 edition of *World Record Marine Game Fishes* is now available, presumably gratis, from the International Game Fish Association, American Museum of Natural History, New York 24, N. Y.

Scout Conservation Program Extended

The National Council of the Boy Scouts of America has received a grant of \$50,000 from the Rockefeller Foundation toward support of a five-year program in conservation education, according to a recent announcement by Dr. Arthur A. Schuck, Chief Scout Executive.

The funds are to be used to provide for the full-time services of a conservation expert who will give leadership to a newly-expanded program. Ted S. Pettit, who headed the 1954 National Conservation Good Turn, has been named to direct the new program.

The 1954 National Conservation Good Turn of the Boy Scouts of America, carried out at the request of President Eisenhower, resulted in widespread interest and activity by hundreds of thousands of Cub Scouts, Boy Scouts, Explorers, and their adult leaders. The Boy Scouts of America plans to expand further its national conservation education emphasis in an effort to build on this interest created by the National Conservation Good Turn.

Mr. Pettit said that the emphasis of the new program will be placed on boy projects at the local level through which Scouts will learn the desired conserva-

Across the Nation

tion attitudes while they practice good conservation methods. To help make this possible, specially produced pamphlets, leaflets, and filmstrips will be distributed, aimed at boy level and setting forth the reason why and the methods of forest, soil, water, fish, and wild-life management.

The program will also cover training of adult Scout leaders and older boy leaders in conservation so that they may work more effectively with the nearly three million members of the organization.

It was also announced that selected Explorers with outstanding records in conservation will make a Conservation caravan through the Pacific Northwest next June and July.

Boys Will Be Presidents

What is a boy? He is the person who is going to . . . carry on what you have started. He is going to sit right where you are sitting and attend to those things you think are so important when you are gone. You may adopt all the policies you please, but how they will be carried on depends on him. Even if you make leagues and treaties, he will have to manage them. He is going to sit at your desk in the Senate and occupy your place on the Supreme Court bench. He is going to move in and take over your prisons, churches, universities, and corporations. When you get done, all your work is going to be judged and praised or condemned by him. Your reputation and your fortune are in his hands. He will assume control of your cities. Right now the future President of the United States is playing marbles, and the most famous actor of his day is complaining because he does not want to go to bed. Not your contemporaries and your fellow citizens, but the boys out there in the schoolyard, are going to say whether after all you were a grand and noble hero or a blatherskite. It is the boy who will amend your rules, alter your creeds, laugh at your mistakes. He may think kindly of you and say you did the best you could, or he may not. Watch your step. All your work is for him, and the fate of the nation and of humanity is in his hands.

So it might be well to pay him some attention.

The above editorial first appeared in the Optimist Magazine. It seems to be in keeping with the advent of spring and thoughts of youthful, barefoot fishermen.

However, we would like to continue where it left off, proudly plugging our favorite product—fishing. What more profitable and gratifying attention can you shower on a youngster than to place a reasonably priced fishing outfit in his hands and utter the magic words, "Lets go fishing!"? These words are often the key which opens the gate to sportsmanship, to an understanding of the ways of nature, and to an appreciation of the out-of-doors. You are his guide, the person to

whom he will turn for advice and answers, the person he will look up to as an example of a sportsman.

This spring—all you fathers, uncles, grandfathers, and brothers—don't sit back and wait for somebody else to do it. Take your child or the neighbor boy on a little fishing jaunt instead of complacently agreeing with the "take a boy fishing" slogan and resting on you laurels. Don't neglect your duty and don't miss out on the fun.

Set an example for your young companion by obeying the laws and by practicing the rules of good sportsmanship. Teach him the fundamentals of fishing, impress him with the importance of conservation, point out to him the feathered and furred creatures of the creek bank, and discuss his problems with him.

All benefits derived will be mutual.

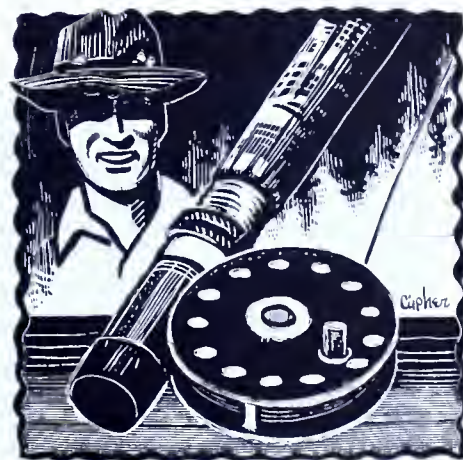
—The Fisherman

Antidote

At long last we seem to have a method of counteracting the toxicity of rotenone on fish. Rotenone is one of the most valuable fish management tools. In *The Progressive Fish-Culturist* for January, biologist J. M. Lawrence describes results of experiments in Alabama in which potassium permanganate successfully detoxified rotenone in aquaria, small experimental ponds, and in stream sampling work. These findings should serve to accelerate both research and management practices in fish conservation. It's a fine contribution.

Keep Posted

On the latest Conservation News across the nation by regularly reading this informative section of the PENNSYLVANIA ANGLER each issue.



Notes

Grey Squirrel Does Tight Wire Act

While directing trout stocking in Stone Creek, Huntingdon county near Corncrops Mills, a grey squirrel was observed crossing a stream on a steel cable. The cable was originally used for a swinging foot bridge now out of business. The stream here is 150 feet wide and deep. Perhaps old bushy-tail didn't like the looks of the cold water so took to the half-inch cable like an old tight wire pro.

—Harold Corbin, Fish Warden
South Central Division Supervisor

Otters Report Fishing Good at Reinings Pond

Several beaver dams are located at the headwaters of Reinings Pond, controlled by the Fish Commission. The district Game Protector suggested we might get in some nice ice fishing for pickerel here. He did take a swat at it in early January but quit in disgust . . . no bites and reported to me he didn't believe the dams contained one good fish. But a deputy protector subsequently reported otters were having a lot of luck in the vicinity and you can believe it when you witness all the pickerel heads laying about the holes on the Reinings beaver dams.

—Harland F. Reynolds, Fish Warden
Wayne county

Another Report on Pymatuning Ice Fishing

For the first time since Pymatuning lake was built, there has been some very good ice fishing this winter season. Yellow perch and channel catfish have been taken, the perch of large size from nine to sixteen inches. Apparently the anglers in this area have been overlooking some excellent winter fishing as I do not believe any attempts have been made in past years to fish thru the ice of the lake.

—S. Caryle Sheldon, Northwest Division
Supervisor, Fish Commission

OK, Warden— Put 'Em Back!

Some guys put 'em back, some don't but you'd better believe a state fish warden practices what he preaches or else! Last January deputy Game Protector Ray Harnard and I hiked into Game Lands 57 to do a little pickerel fishing on one of the many beaver dams. Sometime after noon we had four nice pickerel and one of my flags went skyward. Rushing to the hole I hooked, to my surprise . . . one of the nicest brook trout I had ever seen and not one of many that had made a recent trip on a fish truck. Estimating its length at 16 inches or better I carefully placed him back into the dam hoping some lucky angler would tie into him comes next trout season.

I believe fishermen are missing a good bet when they fail to fish these beaver dams located on our small mountain streams and elsewhere.

—John I. Buck, Fish Warden
Luzerne county

Deer Gets Dumps of Home Cooking

In February, while stocking the West Branch of Hicks Run, a small deer flushed from a hiding place and ran across the road to our front. It looked in trouble so we investigated. As we walked after it, the deer fell down twice, got up, staggered on, went down for the third time, couldn't get up.

Evidently it was starving so we placed it in my jeep and took it to my home kitchen where it was fed warm milk. I then put it in my back shed and fed it on apples, lettuce and corn. It recuperated swiftly and when I went to feed it one morning, to my surprise it had jumped through a small window with an opening 8 x 10 inches, four feet off the floor. How the deer ever got through that small hole is a question for a modern Houdini. I do not think he was injured for I followed his tracks in the snow. Evidently the call of the outdoors was stronger than the smell of good home cooking.

—H. Clair Fleege, Jr., Fish Warden
Elk county



From the streams

Ice Fishing Spotty

Conneaut Lake was a disappointment to ice fishermen this year but Pymatuning offered some nice catches of perch, some measuring 14 inches, and a few crappies but small. This is the first year I noticed anglers fishing thru the ice at Pymatuning and the peculiar thing—the perch would not bite except on very cold days and usually late in the afternoon in about nine feet of water.

—Edward O. Pond, Fish Warden
Crawford county

Brook-Rainbow Trout Cross Possible?

At the Farnsworth Federal Hatchery, Warren county, I was recently shown a very interesting mounted fish. It was a cross between a brook and a rainbow trout. Being dubious of the authenticity of the specimen and since popular opinion has it such a cross is impossible, Mr. Earl Bigford, Hatchery superintendent, assured me that he personally conducted the experiment of the cross breeding. This was a trout he himself raised and had mounted.

—Kenneth G. Corey, Fish Warden
Warren county

"Fishing Permitted" Signs Gratefully Received

In the February issue of the PENNSYLVANIA ANGLER there was an article on the problems of landowners. I was wondering if an article could also be placed in the ANGLER explaining the "Fishing Permitted" signs we post for landowners that have "No Trespassing" signs posted, but will permit fishermen to fish their streams. Along with this article could be a picture of a "No Trespassing" sign with a "Fishing Permitted" sign under it. I believe if the fishermen would learn to know these signs when they see them and abide by the rules on the sign, they would not lose good fishing waters.

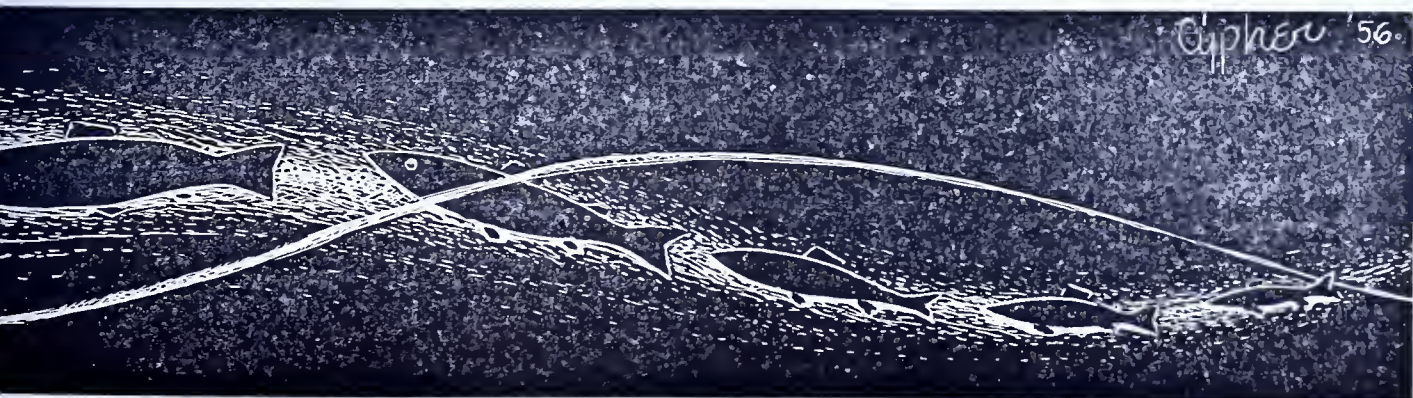
Joseph S. Dick, Fish Warden
Somerset county



BOYS AT WORK, stocking trout at Polk, Pa., with fish commission truck driver, Frank Ottoway from Corry Hatchery and youthful helpers—Tommy Chatham, Freddy Jolley, Ronnie Snyder, Norman Stright, Dick Snyder, Bob Boal, Ronnie Harrison, Mike Snyder, Fred Warrington, Bob Barnes, Bill Barnes, Bob Wood, Daniel Adams and Gerald Clayton.
—Harold L. Solomon—State Fish Warden.

Not Playing Hookey . . . Just Stocking Trout

A group of Franklin School district students recently aided in stocking trout after the fish commission truck pulled up at Polk, Pa. post office with brownies. They were NOT playing hookey either! It was a day off for the youngsters and what a day. They pitched in without any kibitzing from older sportsmen, distributed that load of trout like professionals, showed the younger folks can handle a job when it's put up to them. Sportsmanship and trout fishing aren't going to the cats or dogs as you can see.



Letters

Dear Sir:

Please renew my subscription to the PENNSYLVANIA ANGLER, a magazine that has brought me hours of interesting and educational reading. Keep up the good work. One thing I'd like to see in an issue is some information on ice fishing. I know it is done on several lakes in our state but I haven't been able to get any information on where ice fishing is good, what types of bait and equipment are used. In a past issue you had a couple of pages with pictures on ice fishing but can you come up with a story on how it is done in detail?

Fred J. Hann, Jr.

Homestead, Pa.

Yeh, man, we're pretty good comer-uppers so look for a story on this, maybe not this season (no ice) but with the next hard freeze.

Dear Editor:

Please do renew my subscription to the PENNSYLVANIA ANGLER, a very fine publication for my money. I particularly like the articles on fly tying.

John P. Leahy

Pittsfield, Mass.

Thank ye, Mr. Leahy, more fly tying articles coming up.

Letter to Lee Diehl, ANGLER writer:

Could you do me a favor? I want to build my own rod and need help in purchasing the blank and accessories. Could you recommend any manufacturers? Inspiration for building a rod came from your article, "Build Your Own Rod" in the PENNSYLVANIA ANGLER. This expresses my appreciation of the many joys derived from reading the ANGLER, unquestionably the best in the business.

Stuart Duffield

New Rochelle, N. Y.

Mr. Diehl is always willing to do a fellow angler a favor. Help is on the way.

Dear Sir:

I enjoy so much the ANGLER that I keep the various issues to review them. I happen to have the November issue before me. Could I ask you to name the stream on the back cover and opposite page 10?

John D. Duff

Pittsburgh, Pa.

You ask and we'll name them. Back cover shot is of the Delaware river above Shohola; photo opposite page 10 is of the upper Allegheny.

Dear Editor:

In reference to the article "The Landowner Objects" by Don Neal in the February issue of the PENNSYLVANIA ANGLER I would like to know . . . what can an ordinary citizen do about it?

When the season opens I'm out six out of seven days because I need the sun for my health. I love to fish and love the woods, fields and waters. I see a lot of so called "litterbugs" throw trash, broken bottles, cans and rubbish along the streams. When I call it to their attention I'm told to mind my own business. That, my dear sir, is the answer and I'm getting tired of being insulted.

Don Neal says . . . "it's up to us . . ." I say "NO!" It's up to our law makers. Litterbugs should get the business under laws with teeth in them and should face fine or a loss or suspension of their fishing license or both. People who leave trash along the streams simply won't listen to the average fisherman who takes them to task. Something just must be done about this situation and the sooner the better.

Mrs. L. F. Rank

Washington, Pa.

Lady, we know of a much better method of dealing with these insulting rascals . . . not only suspend their licenses but make 'em eat all the rubbish they toss around, if only to get their goats. Now . . . ANGLER readers . . . get your letters in here stating your views on how to flog these destructive delinquents.

BOATS

boat, motor makers

bow to the girls

Although a woman's influence is not a new thing by any means, it's just about the newest thing in boating for 1956.

Translated into practical terms, this means that boat and motor manufacturers are engineering their products with plenty of emphasis on color and stylish design with the view of satisfying the taste of America's 3,000,000 women boaters.

This became plainly evident last autumn when most of the major outboard manufacturers unveiled multi-colored, chrome-plated products for the coming year.

The new awareness of fashion represents a minor revolution in the marine industry which, up to this time, has concentrated its efforts on improving the utilitarian aspects of its products.

However when they began making sweeping mechanical advances, the motor manufacturers in particular were unconsciously opening up a new recreational field to the gals and creating a new market at the same time.

Electric starting eliminated the need for strongarm tactics to start the engine, remote controls made it

as easy to drive as the family car and quiet operation made for steady nerves. All of which resulted in bringing women into the boating field.

And now comes fashion to please the woman of the house. According to Brooks Stevens industrial designer who patterned Johnson Motors 1956 line of "holiday bronze" colored, custom-styled outboards. "Horsepower and operational advantages are taken for granted by women purchasers. Experience in many industries has shown that design and color are the two major influences on women buyers."

It was bound to happen to the outboard, just as it did to automobiles, washing machines and television sets.

Typical of what's happened to motors is the 30-horsepower Johnson Javelin, the controls of which are concealed behind a gleaming chrome grill. Its colors are holiday bronze and spray white which were selected to harmonize with and compliment the colors of 1956's multihued boats. The owners initials are affixed on the front of the shroud.

How about the boats? This year will see runabouts with palamino seat covers, and two-toned hulls in such combinations as pink and brown, black and green, yellow and brown, and yellow and white, to mention only a few. Hull designs have become more streamlined, rakish in many instances. And there will be skis and swim suits that match.

"Women who are taking up boating by the millions with so much enthusiasm want color drama in motor as they do in autos, so we have given it to them," said Stevens summing up the new revolution in the marine industry.



JOHN HARRIS CHAPTER, Izaak Walton League of America recently celebrated its 11th Anniversary and Installation Party at the West Shore Country Club, Camp Hill, Pa. Officers and directors installed were (see photo): seated, left to right, J. C. Umbenhaur, treas.; Frank Keister, Sec.; John Bistline, pres.; Ted Lick, first vice pres.; and Herbert Beltz, Jr. immediate past president. Standing, left to right: Lester A. Sheaffer, Harry L. Miller, Lloyd L. Keim, Edwin M. Wagner, Samuel E. Raup and L. G. McCracken, elected directors of the club.

Experts All

One of the most amazing things about sport fishing is the lack of novices in it. Invite one of your friends to a game of golf or tennis, and he will immediately tell you he hasn't played for years and doubts if his game is good enough to be put on public inspection.

Ask another friend to go bowling or to fill in for an evening of bridge or Ping-Pong, and the answer will be similar. "It's been so long since I played"—"Please don't expect too much." Most sports seem to be pursued by people who view their prowess with a modest eye.

But not fishing—certainly not fishing. It is a rare angler indeed who does not consider himself an expert. Even though his last fishing experience was for bullheads 30 years ago, he will resist instruction or advice like a small boy avoids soap. What's more, after demonstrating his ineptness in even the rudiments of the art all day, he will bend your ear half the night with tales of past success and original theory. The fisherman is a stubborn but lovable guy, and I suppose if he had more in common with golfers and tennis players, perhaps sport fishing would not be the No. 1 recreation in America today.

Right or Left

Sports fishing has a condition existing that I do not believe has a parallel in any other sport. The casting reel is strictly an American invention. The first reels were produced in left-hand models. I rather imagine the inventor of the modern, multiplying casting reel was, himself, left-handed and built his first reel to accommodate his own left-handedness.

At any rate, the American manufacturers proceeded to produce millions of left-handed casting reels that were purchased by a fishing public, 90% of whom were right-handed. The left-handed anglers were in clover. They cast with their left hand and reeled with their right, as was originally intended. But the big majority of reel buyers (right-handers) were forced to improvise to use the product. These unlucky casters had to cast with the right hand, then change the rod to their left hand so that their right hand could grasp the reel handles—an altogether unsatisfactory arrangement.

Some few right-handed anglers refuse to accept this hand changing routine. A few of these hardy souls spent the time to find one of the few right-handed casting reels that were being manufactured, but most of them learned to cast with their left hand and so joined the happy group of naturally left-handed fishermen.

Now comes the joker—with the advent of spinning reels in both left and right hand models, many right-handers have so conditioned themselves by a lifetime of using left-handed casting reels that they refuse to change to right-handed spinning reels now that proper reels are available. What's worse, the many right-handers, who learn to cast with their left hands, are now reluctant to use their proper hand.

It's a cruel world, and habit is a powerful thing. We've come a long way from the willow pole, the No. 8 thread and a bent pin.

Worm Trouble

If right and left hand reel problems leave you confused, think of this: Jason Lucas, another fishing expert, tells of having his trailer parked at a famous northern fishing resort. One day, a stranger knocked at his door and asked angling expert Lucas if he would pass out some free advice about how to keep worms on the hooks.

Lucas assured the man of his interest and promised his cooperation, but he couldn't make heads or tails of just what the actual trouble was. Finally Lucas asked the man to bring some worms and hooks and demonstrate just what it was that was bothering him.

The inquiring fisherman returned with a can of worms and a top water plug complete with three ganged hooks. He had impaled a worm on each of the 9 hook points and offered this gruesome trophy to Lucas, complaining the worms always fell off when he made a cast.

I've tried to get Jason Lucas to tell me what advice he gave this angler, but to no avail. A trade secret, no doubt.

—Chuck Schilling, *Florida Wildlife*.

Carp Canning Recipe

Cut off heads and tails, to bleed. Scale and wash. Cut in blocks that can be forced into jars. To each pint jar add 1 teaspoon salt, and 1 tablespoon of Wesson oil. Pack cold, seal and cook in pressure cooker at least 90 minutes for 10 pounds.

When used this will resemble pink salmon in taste and some like it even better.

RECIPE FOR A MAN

A handful of freckles on a turned up nose
Patched up jeans and muddied toes,
An old cane pole and a battered can
Dad's old straw hat and baked on tan.
A faithful pup less pedigree
A vacant space where a tooth should be.
A secret place to sit and dream
A fishin' hole on quiet stream
The birds, the frogs, the bugs and snakes
And grub like only Mother makes,
And special times when Dad can come
To fish and talk till day is done.
It's such as these that link the span
From a freckle nose kid to a worthwhile man.

—Paul Thygeson Gilbert

A good husband is one who will wash up when asked and dry up when told!

The time to make friends is before you need them.

The definition of a DIME is a DOLLAR with all the taxes taken out.



"TAIN'T FUNNY MAC"

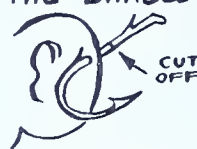
IT COULD HAPPEN TO YOU!! HERE'S WHAT TO DO IF IT DOES:

IF IT'S A FLY, THEN CUT OFF ALL THE DRESSING WITH A KNIFE OR RAZOR BLADE. PUSH HOOK THROUGH UNTIL BARB IS CLEAR. CUT THE BARB OFF WITH PLIERS.



DAUB SOME ANTISEPTIC ON THE HOOK & THE PUNCTURE AND THEN PULL THE HOOK OUT FROM THE EYED END.

IF IT HAPPENS TO BE A BAIT HOLDER TYPE OF HOOK AND ONE OF THE BARBS IS IMBEDDED, THEN CUT OFF THE EYED END OF THE HOOK AND PULL IT OUT FROM THE BARBED END.



IT'S GOOD INSURANCE TO SEE YOUR DOCTOR, BECAUSE PUNCTURE WOUNDS OF THIS TYPE CAN EASILY LEAD TO INFECTION.

JOHN CLARK





Where Angling "Know How" pays off

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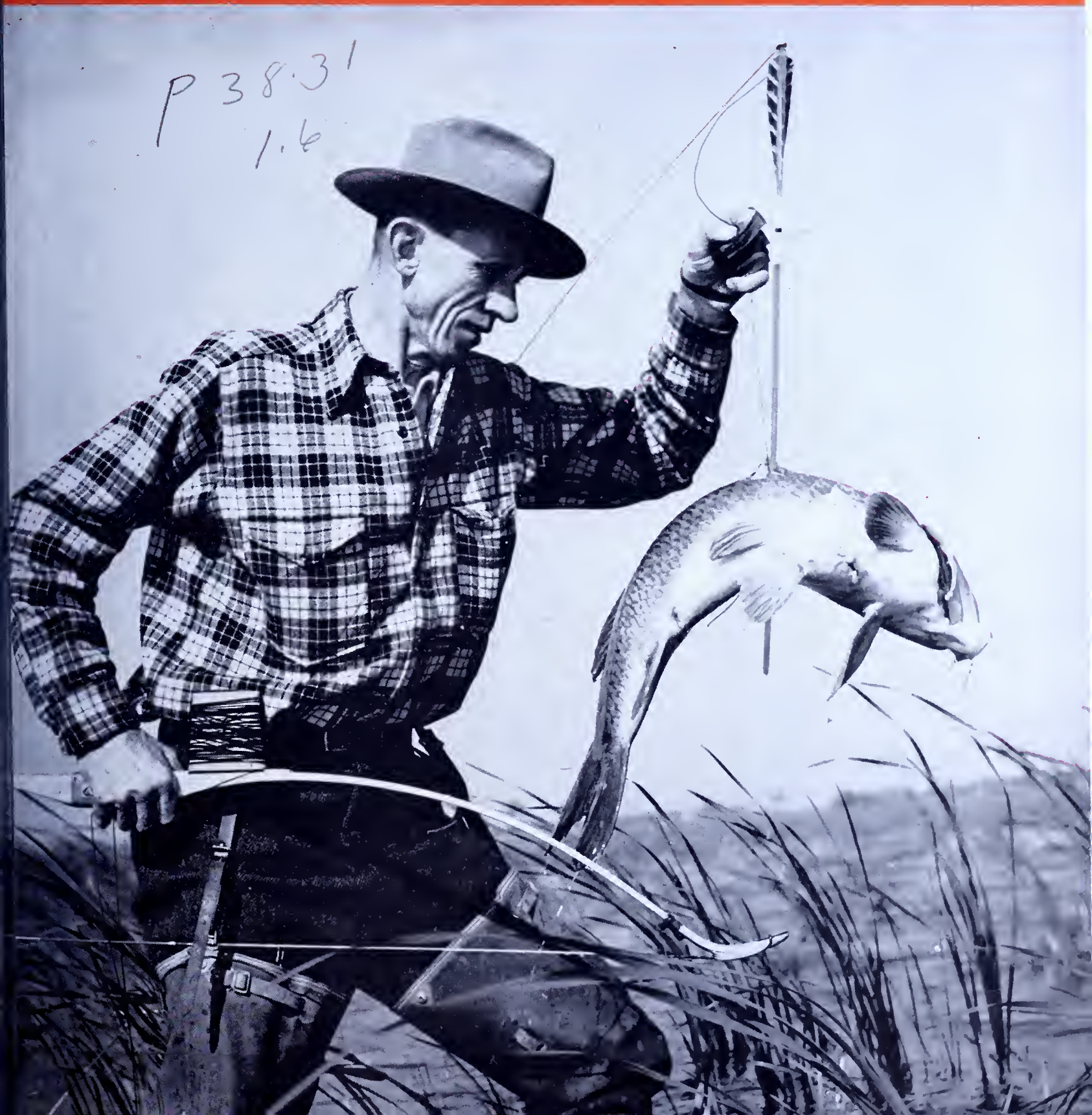


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PENNSYLVANIA FISH COMMISSION





If He's Too Small –

Remove hook carefully –

Launch Him Gently –

**This is a good conservation bonus because that trout will
live to fight another day for another angler!**

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Northwest Region

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Southwest Region

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North Central Region

C. W. SHEARER
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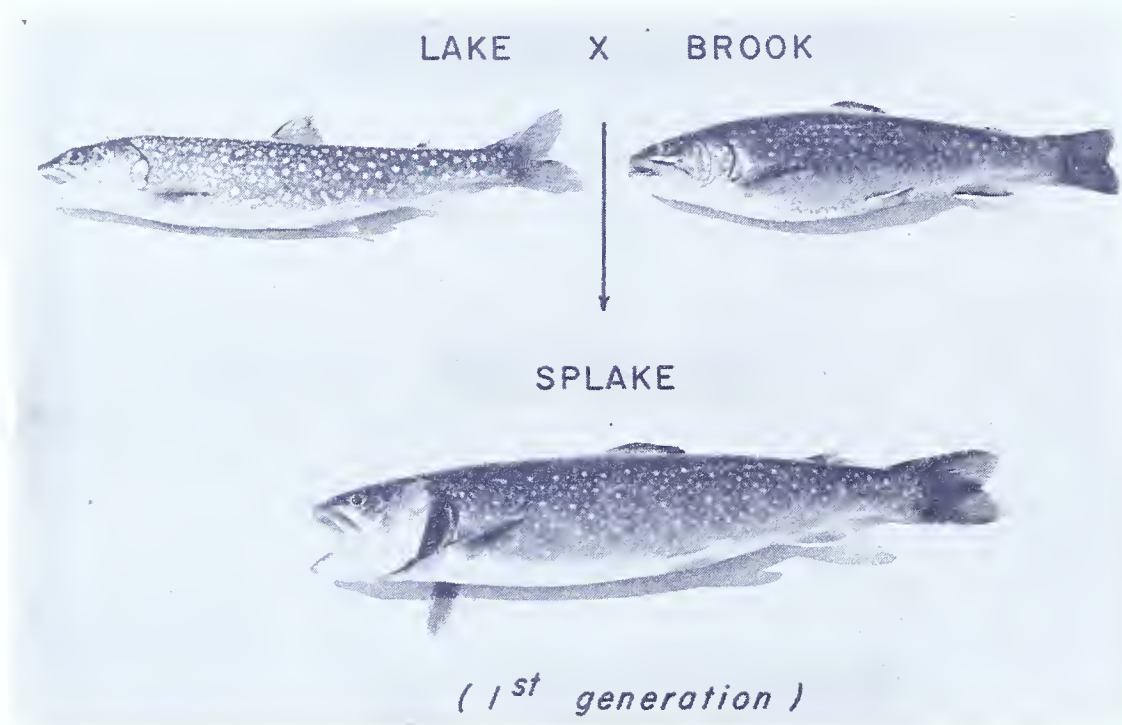
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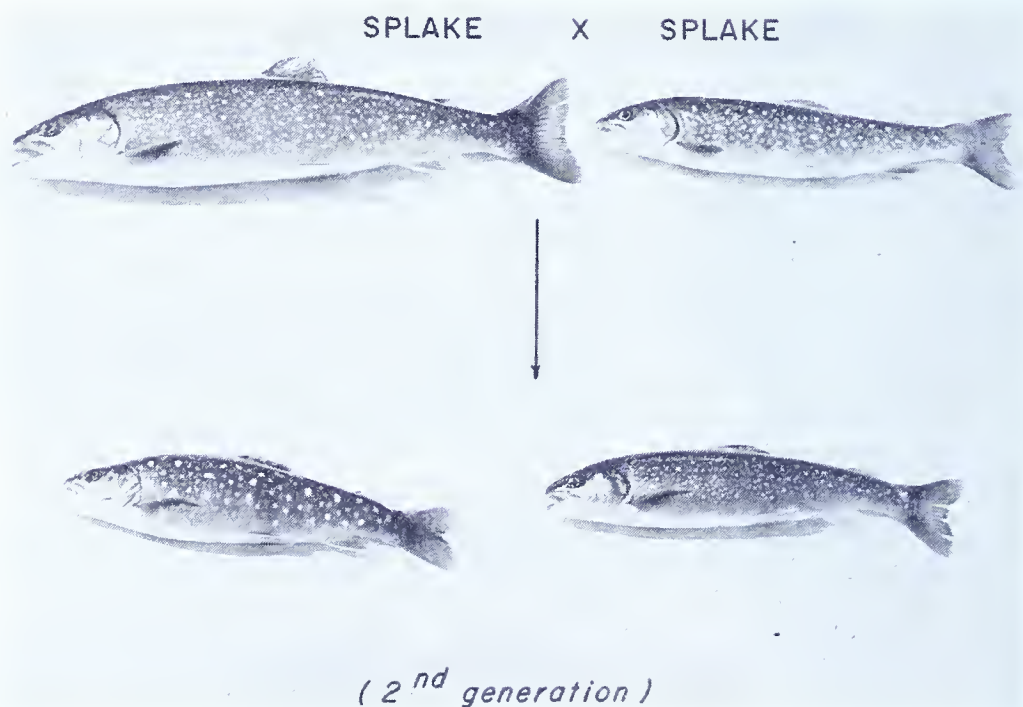
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the **SPLAKE**

by **KEEN BUSS**, Fishery Biologist, Benner Springs Research Station
Pennsylvania Fish Commission



LAKE TROUT x BROOK TROUT cross results in the controversial splake.
Note that body conformity and spotting pattern of the hybrid is more
nearly like that of brook trout.



SPLAKE x SPLAKE results in offspring with varied markings. The fish
on the left more closely resembles a lake trout, while the fish on the
right has the body markings of a brook trout.

THE original wedding of lake trout and brook trout took place in the mid-Victorian age—in 1886, to be exact. A more recent wedding of like principals took place in 1946—in the age of the Atom. And strides in an attending science—the science of Fishery Biology—that was new in this country on the occasion of that first wedding, have been almost as great as those between the puff of a 19th century black powder burst and the awesome, fiery mushroom of the Bomb.

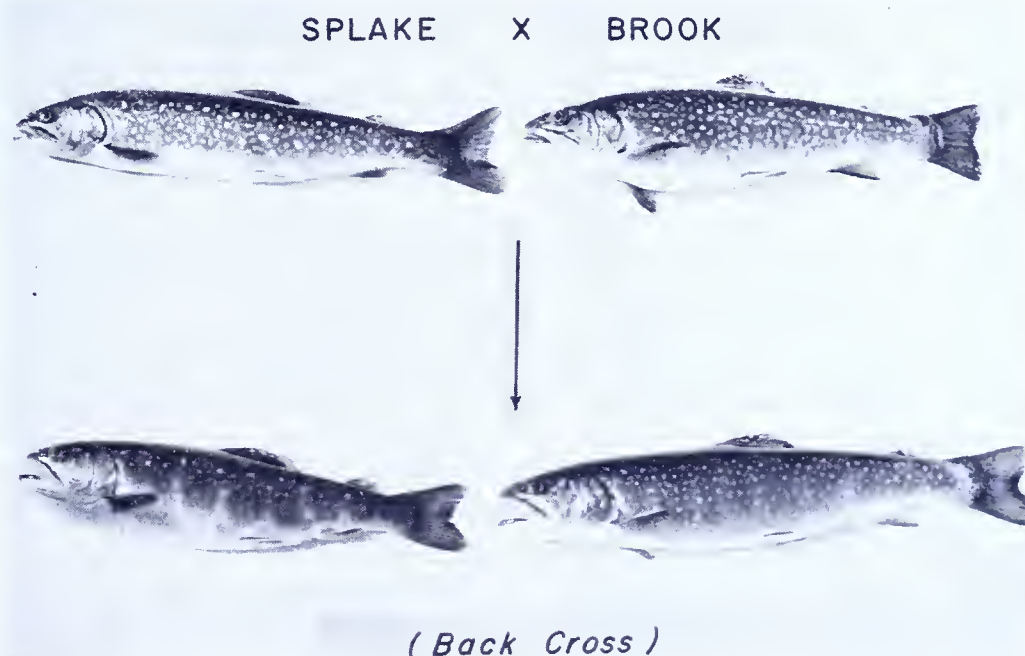
Little came out of that first wedding. Since then, fishery biology and its inevitable appendages—fisheries management and research—has grown to an active, robust art in the new world. With the result, the honeymoon of the second wedding has been prolonged by the researchers to test, encourage and develop a progeny with the ability to reproduce.

But let's start in the beginning. Retracing the progress will generate enough momentum

to project us into the future and what is expected.

The marriages, mid-Victorian and modern, gave rise to an offspring. That offspring was a new creature and needed a name. Though neither brook trout nor lake trout have anything in common with anything Spanish, the Spanish custom of bestowing the names, in whole or in part, of both parents on their children was borrowed and the name "Splake" was created. "Sp" from speckled trout (brook trout) "lake" from lake trout. Splake was deemed a fitting name for a fine progeny by the biologists of the Ontario Department of Lands and Forests, who figured early in the span of the more recent wedding. They were later joined in baby sitting by their neighbors of the Quebec Department of Fish and Game who in turn christened the newcomer "Moulac." Subsequently, another "handle" was attached. "Wendigo," it was. But whether splake,

something old, something new, something borrowed, something blue



SPLAKE backcrossed to a brook trout again results in offspring with spotting and color variation. Red spots on these fish are very pronounced.



ADULT SPLAKE showing the body power of a brook trout, and a fighting eye glaring from a head which shows characteristics of both parents. Red spotting is lacking in the splake. The position of the tail fails to reveal the characteristic fork tail of the Splake.

moulac or wendigo, it's still the progeny of the lake trout and the brook trout.

SOMETHING OLD: Humans often have an inane curiosity. Some are never satisfied with present knowledge and search the past for information. This often leads to retaining a genealogist to compile the history of their progenitors, braving the fact that one of their ancestors may have been hanged for stealing horses. This situation was encountered when the history of the "new" splake was investigated. You can hang us for horse thieves because we have found in the records of the State Commissioners of Fisheries of Pennsylvania for the years 1885-1886 and 1889-1891, the following report:

"The experiment at the Western Station (Corry) of crossing and inter-crossing of salmon (*lake*) trout with brook trout, has been continued with good success, and at present we have a number of hybrids old enough to spawn: there are two kinds: one, a cross of the male brook trout with the female salmon (*lake*) trout, and the product of this cross fecundated with the male brook trout, making in the first case a half-and-half, and in the latter a

three quarter brook and one quarter salmon (*lake*) trout.

"The spawn of the hybrids is fertilized readily with the milt of the kindred males, and of the parent stock of either side; several thousand of the progeny have been planted in natural trout streams, and it is yet to be learned whether these fish will mate and the spawn be fertilized naturally.

"It is not yet known whether they will adhere exclusively to the habit of one or the other parent, or will partake of the habits of both, but that they will prove a valuable addition to our stock of game fish there is no reason to doubt.

"In Pennsylvania a fertile hybrid between the lake trout and the brook trout is held in higher esteem than the lake trout as a food fish."

The records show that 485,900 hybrid trout were stocked in Pennsylvania streams between 1892 and 1900.

So ends the reports, and our "new" splake turns out to be over 71 years old.

SOMETHING NEW: 1946—The war is over, the age of the atom has arrived, and man turns

to scientific research with more fervor than ever. Fishery biology also benefited and suddenly developed from youth into manhood.

The second wedding and early honeymoon had for a setting the beautiful and scenic Banff National Park near picturesque Lake Louise, British Columbia. From the stygian depths of an abandoned rock tunnel under the dirt dam of Lake Minniwanka, Warden J. E. Stenton working in rearing troughs with the aid of flashlights was about to uncover another Bridey Murphy story—the reincarnation of the splake. From out of the past, out of this subterranean darkness into the sunlight of the Canadian Rockies, came the first splake in 61 years to be stocked into lakes for angling pleasure.

Herbert Lake was chosen as the first new home of this progeny of the lake-brook trout cross. After two years of carefree living they were exposed to the cruel world and the barbed hooks of the anglers. Canadian biologists who witnessed this carnage report that in three days the lake was almost fished out. What happened? The splake took flies from the surface like a brook trout and immediately plummeted to the depths like a lake trout as though old Satan himself was their protector. But even the depths of Lake Herbert could not protect them and the fisherman won the first battle.

High in the virgin wilderness of Banff Park, located at an altitude of 7,000 feet was Agnes Lake, recently reclaimed as had been Lake Herbert. Agnes was chosen as the second abode of the splake. Fingerlings planted in August of 1951 burst forth with their hybrid vigor and in July of 1953 weighed almost two pounds. Canadian officials were satisfied that the reincarnated splake had a future which might be exploited.

Like any new family which had recently moved into the neighborhood, people began asking questions. Wyoming, New York, New Hampshire, and Pennsylvania, among others, began to do a little "snooping." Biologists at Pennsylvania's new Benner Spring Research Station couldn't help but cock an inquisitive eye. They duplicated the match and they uncovered the good and the bad as had the other probers. They came to the conclusion that the mother lake trout's name shouldn't be *Cristivomer* as some scientists claimed, but rather *Salvelinus* the same as a brook trout since

fertile young were produced by the parents.

Scientist Dr. James E. Wright, Jr., of the Pennsylvania State University, an advisory geneticist at the Benner Spring Research Station began to investigate, should we say, the hereditary "medical history" of the new family. he found that both parents had 84 chromosomes as did the offspring. The indications were, along with the fact that the young had fertile progeny, that the brook trout and the lake trout could be placed in the same genus. This was hardly a case of incest, but certainly a sound reason for classifying them in a more closely related group.

The snooping biologists at the "Spring" also found other pertinent facts, which corroborate and perhaps extend the findings of New York and Canada; (1) That splake mature sooner than lake trout. Lake trout mature at four to ten years of age depending on conditions, but a few of these hybrids are sexually mature at two years while almost all are mature at three years of age; (2) That the maximum size of the splake is greater than any of the present strains of brook trout; (3) That the initial growth of the splake is faster than the lake trout and is intermediate between the parent species; (4) That better hatchability will result when the lake trout female is crossed with a brook trout male rather than the reciprocal cross. Young from this reciprocal cross are crippled in the caudal region. This is believed to be due to the cramping of a large embryo into the smaller brook trout egg; (5) That the viability or capacity to develop of eggs resulting from a splake x splake cross is lower than the original lake trout, brook trout mating; (6) That the splake can be backcrossed with brook trout and the resulting eggs have a better hatchability than the original lake trout, brook trout cross; (7) That a recurrent backcross to the brook trout using the progeny of the splake, brook trout backcross results in still better viability; (8) That the offspring of any generation of these hybrids using splake x splake, splake x brook trout, or (splake x brook trout) x brook trout result in young with varied appearance. Some resemble lake trout, some splake, some brook trout, or any combination thereof.

The Canadian F. B. I.* (Fishery Biologist Investigators) when probing into the private

life of this new family found that (1) the splake is more piscivorous (fish eating) than brook, brown, or rainbow trout which prefer an insect diet. Therefore, new trout could possibly be used to help control over-populations of stunted fish; (2) the body characters when measured tend to be intermediate between the lake trout and brook trout in many cases, although this is not always true; (3) experience so far suggests that the splake shows angling qualities in lakes superior to the parents and may replace either parent for angling in certain waters; and (4) the splake became highly colored as brook trout when placed in a natural environment.

The New York State OGPU* (Observers of Germane Piscatorial Unity) report that apparently the splake needs the same low water temperatures as do lake trout—approximately 10 to 15 degrees cooler than brook trout.

Now that the old neighborhood is back to normal and the splake is a partially accepted newcomer, let's go on with our story.

SOMETHING BORROWED: Usually at a nuptial something is borrowed and strangely enough this is the case in this tale. When the idea was first conceived in the minds of the Pennsylvania biologists to test the latest addition to the *Salmonidae* family, no lake trout were immediately available. So the very good neighbors of the Pennsylvania Fish Commission at Cornell University, Doctors D. A. Webster and Alfred Eipper were contacted. They agreed to "lend" the eggs and in return they received the benefit of our findings and a shipment of "Tiger trout." (Tiger trout are the hybrids resulting from brook, brown matings but that is another story with a more abrupt and probably unhappy ending.) Anyway, it is through the courtesy of these gentlemen that after seventy years, the splake returned to Pennsylvania.

SOMETHING BLUE: How in the world we can bestow something "blue" upon a green fish probably had you guessing. But it is reckoned that it is possible.

First, when splake are mated to splake, the sac-fry which result from this union suffer a



high mortality from blue sac disease. Although the exact cause of blue sac disease is not known, scientific evidence in the last few years points to the fact that it may be physiological, or due to some type of morphogenetic disturbance. Secondly, it is becoming increasingly more evident that deep, cool, blue waters are necessary for the natural habitat of this fish. Pennsylvania is not blessed with many trout lakes as are many northern states and therefore suitable stocking sites are few. Experimental plantings of splake have been made in two lakes—Highland Lake in Lycoming County and Upper Woods Pond in Wayne County. Backcrosses of splake x brook trout fingerlings were placed in Lake Pleasant, Erie County. Time has not permitted an evaluation of these plantings.

Thirdly, the future is not rosy for this newcomer as such, since it doesn't breed true and is therefore a put-an-take fish. Maybe, however, it can be made to fit into our community of fish life as outlined in the next topic.

THEY LIVE HAPPILY EVER AFTER: Before it can be said that they lived happily ever after, there is much work to be accomplished.

(1) Investigate the possibility that they, the splake, wendigo, or moulac, or whatever you wish to call them will adapt themselves to stream life.

(2) Use the splake as a tool to transfer the desired qualities from the lake trout to the brook trout without losing the identity of the brook trout. This is a genetic trick often used in plant and animal breeding. For instance,

neither brown, brook, nor rainbow trout will usually spawn in lakes. If this characteristic of lake spawning could be transferred from the lake trout to the brook trout, then put and-take stocking may not be necessary for the lake.

(3) Transfer the maximum growth from lake trout to the brook trout.

(4) It has been observed that brook trout often migrate from lakes after plantings, perhaps the lake trout's desire for deeper waters would be a valuable asset to the brook trout.

(5) Plantings of splake, backcrosses, and recurrent backcrosses into a lake, if unmolested, should develop over a period of years some combination of these fish which through ability to survive and reproduce would be better suited to the lakes in Pennsylvania. In other words, we could leave the new fish up to natural selection, and thereby exploit Darwin's principle of "survival of the fittest."

All these last five items are merely speculations, but when these and other problems are solved then we can truly say they lived happily everafter—LONG LIVE THE SPLAKE!

**The Canadian FBI and the New York State OGPU are figments of the author's imagination. These terms are not meant to reflect on these two fine organizations and the very capable men who make them up, but rather to lighten the presentation of this list of scientific facts.*

KEN REID PASSES AWAY

Kenneth A. Reid 61, member of the old board of fish commissioners from 1932 to 1938 and executive director of the Izaak Walton League of America from 1938 to 1949, died on May 22 and was buried at Connellsville, the family home.

Ken first was stricken in 1945, while vacationing at Yellowstone National Park, but recuperated sufficiently to carry out his league duties until late in 1948, when he had a second attack. After leaving the league he was resources superintendent for Whitney Industries, in the New York Adirondacks, but returned to Connellsville last June when he felt he should be nearer medical attention. His final illness came early in May.

Always a stouthearted conservationist, he was fearless and aggressive in the defense of America's soil, woods, waters and wildlife. His contributions to a better, more beautiful, more bountiful outdoor America were always endless.

Survivors include Mrs. Reid and two daughters, Nancy and Betty.

AN ALIEN HERE

I'm an alien here amid the city's din,
Its smoke, its noise, its minatory ways,
Its shrieks, its shrills, its clangs, its frills,
Its never ending days!
From morn till night, from night till morn
Are sounds unceasingly the same,
Ever the peevish crowd, the maddening rush—
Luxury? Well, what's in a name?

Give me a cabin set upon a hill
'Neath towering trees, beside a rippling stream,
Give me my fireplace and the smoke-stained walls
Where I may dream!
Give me the dawn-flush and the starry nights,
Or yonder sunset's bright and polished gold,
Give me the freedom of the out-of-doors
In August or in grim December's cold.

Give me the gay stream's foaming, laughing spray.
Give me rare summer's gladsome days,
Give me the tints of fair autumnal trees
In colorful array;
On my bronzed face let play the kiss of winds,
I would be kin of all the whitened snows,
Let me be playfellow of the mighty trees,
In any season when a wild wind blows.

—J. Herbert Walker



what's

with

these

B_{ig}

D_{ams?}

By WILLIAM VOIGT, JR.

A FAIRLY large segment of Pennsylvania is in a tizzy these days on the subject of big dams.

The reasons given why big dams should be built mostly are flood control, stream flow regulation, hydro-electric power, and a measure of public water supply.

In some cases the dams discussed would be dry ones. That is, they would not impound any water until or unless there were flood flows. Then they would hold back the water that the normal stream channel couldn't accommodate, but the water would keep on running out at bankful rate until the reservoir was dry again. Usually, this would take only a few days or, at most, a few weeks.

When the dams would not be dry dams, but would hold a permanent pool of water, the question or promise of recreation, especially fishing, invariably comes up.

The Fish Commission has an official interest in big dams when fishing is a prospect. Its interest in the other reasons given for building dams should be an official one only if those reasons have an impact upon the quality or volume of recreational, food or commercial fishing involved.

Therefore, this article concerns itself primarily with the fishery aspects of big dam construction and operation.

It is, however, appropriate to speak briefly of the reasons why the present tremendous interest in big dams.

Much of the interest has arisen out of the stormy weather and floods of 1955. Property was destroyed or damaged, and lives were lost in these flood flows. Those who lived through them, or who went back to their properties after the waters had passed and saw the devastation wrought, were justifiably anxious for some kind of assurance that it wouldn't happen to them again. Only those who have actually endured a natural catastrophe such as a flood can fully share the feelings and fears of the sufferers. However, anyone with a spark of fellow feeling in his or her system can understand the terror, and can sympathize.

It is understandable that the sufferers should look to the Commonwealth and to the agencies of the federal government in seeking relief from future fears.

In the Commonwealth the chief agency concerned is the Department of Forests and Waters.

In the federal government the chief agency is the Corps of Engineers of the Department of the Army.

In some instances both these agencies are concerned.

Where the Department of Forests and Waters is the constructing and operating agency, the Fish Commission would be consulted regarding fish matters.

This is not necessarily the case where the agency is an arm of the federal government. If it was done, it would be a voluntary act on the part of the Corps of Engineers. The Fish Commission does not have authority to demand collaboration, coordination, cooperation or consultation.

When the Corps of Engineers builds a reservoir, the federal government owns the land. Under ordinary construction of Pennsylvania law, this should be construed as private land, with the owner having the right to allow the public on the land or water, or to prohibit trespass. The Fish Commission has the right to send its field agents on private land and water, to check persons thereon for compliance with the state laws and rules relating to fishing and motor boating, or it can make other arrangements with the owners for those purposes.

Since the reservoirs of the Corps of Engineers are built with public money derived from taxes, it would appear logical that fishing ordinarily would be permitted on them. Customary interpretation by the public would be that they were public properties, as much so as a post-office, a national forest, national park or federal wildlife refuge. It would not appear normal for the public to be excluded, except in time of emergency when the reservoir might assume sensitive security status, or except in areas where there was danger of injury or a likelihood of nuisance interference with normal operations of the dam and related facilities.

Thus, there usually will be public access at federal reservoirs for fishing purposes.

Mere access, however, does not guarantee good fishing. For that the public should inquire into other conditions and circumstances relating to the construction and operation of the dam and reservoir. Here are some check points of value in assessing the actual or potential fishing quality of an impoundment:

1. Will the reservoir have a relatively stable permanent level or pool of water?

Unless this question can be answered in the affirmative there will always be a question as to how good the fishing will be, and over how long a time. If it can be answered with a flat

"yes," then in time the reservoir should take on many of the characteristics of a natural lake. Even a natural lake, however, may be subject to considerable variation in fishing quality, and the public should expect no more from a stable-pool reservoir than it does from a natural lake.

2. Will the reservoir be subjected to violent or extensive fluctuations of water level? What would be the timing of the fluctuations?

This double-barreled question is an important one with respect to quality of reservoir fishing. Changes in water levels ordinarily would be accomplished by the reservoir operator for one or more of a number of possible reasons. These would depend in part upon the purpose, or purposes, for which a given reservoir was built. If the chief purpose was flood control, the operator would want to be sure the water level was as low as possible ahead of any expected flood, so as to assure maximum flood water storage capacity. Having advance information to the effect that conditions existed that might be building up to a possible flood—and there are a number of varieties of situations that might give such advance notice—the dam operator would want to pull down the water level to the absolute practical limit as a safeguard. Fish could be trapped in back areas, or the drawdown could come at a critical time of year for fish. The fish might be spawning, or may have recently spawned and the eggs may be in beds in the shallows. If the reservoir should be drawdown at such a time, and if flood waters did not immediately follow as anticipated, the beds could be exposed and perhaps a generation of desirable panfish or game fish wiped out. While this sort of fishery disaster may be considered an extreme case, it could certainly occur, just as certainly as the "project flood" for which the reservoir was constructed could occur.

If the reservoir purpose was hydro electric power production, reservoir fluctuations would depend upon the power capacity of the reservoir, the demand for power from the installation, and the relation of the inflow of water into the reservoir to the outflow through the turbines. Unless the inflow balanced outflow, water level changes might be frequent, and sizeable. These changes, depending upon a

variety of situations, could be damaging to fish life, particularly at spawning time.

If one of the reservoir purposes was to level out stream flow below the dam, drawdowns might normally be expected chiefly during spells of dry weather, or drought. The ultimate fluctuation might be considerable, but it need not necessarily come so rapidly as to constitute a menace to fish. It could, however, have a substantial effect on other aquatic life, such as insects and other small creatures that form so important a link in the food chain of any body of water. This, of course, applies under any of the other drawdown conditions that have been mentioned here.

Fluctuations would not normally be significant in cases where the chief purpose of a reservoir was to feed a public water supply, although in some extreme circumstances, such as those that hit New York City a few years ago, it could happen.

The examples cited would seem to indicate that sudden or violent water level fluctuations are in all cases bad for the fish. This, like all general statements, is not universally true. Sharp or rapid drawdowns can be used at times to good advantage as an effective tool in fisheries management. Are undesirable trash fish overrunning the reservoir, eating up the available food or otherwise crowding out, replacing or competing with the desirable species? If so, under the guidance of a trained and experienced technician, it may be possible to utilize drawdown techniques to reduce the rough fish population without materially damaging the better fish. But it is ordinarily true that sharp and swift reductions in water levels of the large impoundments tend to bring more harm than benefit to the game fish and the more sought after panfish.

3. What quality of fisheries management will be accorded the reservoir, and by whom?

The Federal Corps of Engineers should not be considered an agency for fisheries management. That is a job for fisheries managers, rather than dam builders. Fisheries management should be coordinated with the other operations at a multiple purpose reservoir, and given more than lip service in all cases where there may be complexity and possible conflict.

Is the production of electricity to be paramount? If so, the power production department will want the entire say-so as to the rate of water flow through the turbines and out of the reservoir. Is there a possibility of some high water coming down from the valley above? If so, the flood control department wants to take charge. Fishes? Often, quite often, the attitude of the reservoir managers is to let them take their chances under whatever conditions may be forced upon them. Their attitude, often, is that the fishes aren't as important as lives and property in flood time, or the furnishing of electricity to people and industry at any time. Maybe they are right. That is a matter for public determination. But—and here a delicate, rather sensitive subject is being laid out on the table—if the fishes and the recreation they provide are to be considered as of no or low value, then they should likewise be considered of no or low value when proponents of a dam construction project are going about the countryside promoting popular support for the project.

It is not proposed here to argue the merits of any particular dam project. However, as these words are being written there lies on the desk before the writer a full page story from a large eastern Pennsylvania newspaper that advocates the construction of a certain big impoundment. The headline tells that the dam would "open big new resort area," and the story is filled with glowing accounts of the recreational paradise that, it says, the reservoir would create. However, there is no firm commitment as yet to the effect that fisheries management would receive any official recognition in the construction and operation of that reservoir; it has been mentioned informally, behind the scenes, to some influential proponents, but that is all.

At the present time the Pennsylvania Fish Commission does not have any cooperative agreement with the Corps of Engineers giving the Commission the authority necessary to bring about optimum beneficial management of fisheries in the federal impoundments in Pennsylvania.

The agreements say the Commission may "control" fish life in the reservoirs, including

rescue of fish stranded in back areas when the water is drawn down.

The Engineers, however, reserve to themselves entire control over water level manipulations. This is the area of critical activity in so far as fishery management is concerned. Full benefit in the fisheries field cannot accrue under these circumstances.

4. What about fishways to allow free movement of fish up and down stream past the dams?

Fish "flow ways" may be useful in cases of certain very low dams, dams not more than 10 feet high. They are a doubtful proposition elsewhere. Fish "ladders" have been successful at some relatively low dams in the Pacific Northwest, notably at the 65-foot-high Bonneville Dam on the Columbia river between Oregon and Washington. But the fish species mainly involved there are salmon and steelhead trout, which are jumpers. The species of salt water migratory fish that might be encountered in Pennsylvania waters are shad, striped bass (rockfish) and white perch. These are not jumpers. Practical ladders for shad and striped bass to use in passing high dams have not yet been put in operation in the East.

Reports have recently been seen concerning the use of elevators to get shad over a power dam on the Connecticut River in Massachusetts. This system or technique is still in its infancy, but the Pennsylvania Fish Commission is keeping an interested eye on it. Pennsylvania technicians will have visited that installation before this reaches print, to watch it in operation and learn some of its details, and limitations.

Fishways have been mentioned in connection with the proposed Wallpack Bend dam. The Pennsylvania Fish Commission has not seen the drawings or specifications, and does not now presume to pass judgment upon any fishways that may be contemplated at Wallpack Bend.

5. What about the stream bed below a big dam, and the fishery there?

The answer to this question involves consideration for fishery values, and fisheries management.

Is the reservoir to be operated for electric power production? If so, and if the inflow is small, the reservoir managers may close all the

gates to build up a big head of water for peaking power, and completely dry up the channel below. In such case fishery values in the channel would be nil while the flow was halted, and the productivity of the channel could be reduced because the drying up process could kill aquatic organisms upon which fish feed.

Is the reservoir to be operated to regulate the stream and keep a constant flow of water in the channel below the dam? If so, then it is logical to assume that fishery values might be improved. However, this beneficial impact should be calculated in relation to the degree and quality of fisheries management in and for the reservoir above the dam, and some sort of

balance struck on the basis of the total operation, not just one of its parts.

Many other questions could be raised in addition to the five in the preceding passages. Will water released from the reservoir come from the top or bottom of the pool? The answer might determine whether trout or warm water species might be found in the stream below. Is pollution present? Will there be adequate public access areas? These are a few of them. They, and others that will occur to the thinking public, should be asked and answered before judgment is rendered either for or against any proposed reservoir where fishing and other healthful, beneficial outdoor recreation is expected to be a factor.

LOGICAL

Three-fourths of the earth's surface is water and one-fourth is land. It's clear the good Lord intended a man should spend three times as much time fishing as he does plowing.



Bowfishing comes to Pennsylvania

- the Carp

is **IT**

By **C. ROBERT GLOVER**

Chief, Conservation Education Division,
Pennsylvania Fish Commission

Photos: Courtesy, Bear Archery Company

BEGINNING this spring along Pennsylvania's slow flowing streams, in the marshes and the shallow flats of our lakes, a new sound—rather, a combination of sounds—will be added to the euphony that is nowhere else than near the water. It's a passage that defies spelling or being set to a key. Yet once heard and associated with its source, will never be forgotten. And for all the deadliness that can accompany it, it never startles nor irritates. It's the sound sequence of an arrow being sent on its way by a released bow string, past the riser, hissing its way through the air to a soft but conclusive "Thup." What follows, if the arrow has found its mark on a mud grubbing, hog-fat carp, will be anything but soothing. The stricken member of the genus *cyprinus carpio*, whose forebearers cavorted similarly in the waters of Europe and the Orient long before the thing that laid him low was added to man's arsenal, will explode the water and cloud things up more than a seltzer spray in a barrel of baking soda.

Everything not nailed down will by wings, fins or legs, be startled to first putting distance between itself and the commotion, and stop

only at the end of its wind to see what the heck was that?

The person on the business end of the arrow, line, reel and bow lash up will be unaware of the vacuum created. But only because of full occupation with the aroused bundle of junk he's got to retrieve if he is to recover an arrow, or head, or both.

Now if all the foregoing stirs even the slightest interest toward carving yourself a piece of that action, that's good. And it is now a perfectly legal bit of outdoors business in Pennsylvania.

It was made that way just a few weeks ago when Governor George Leader put his signature to an Act that added one sentence to the existing Fish Laws. Section 50, Clause (d) now reads: "It shall be unlawful to take or attempt to take fish of any kind by the methods known as snatch-fishing foul hooking or snag-fishing or the taking or fishing for fish with hook or hooks baited or otherwise attached to rod or line or other device for the taking of or fishing for fish with any device whatsoever which may be used to capture any fish by engaging such device in to or with any part of the body of a fish. *Nothing in this section shall prohibit the use of long bows and arrows for taking or killing carp.*"

Aside from the requirement of a fishing license as set forth in the Fish Laws, only two limitations are placed upon the "archery carper." First, the March 14-April 15 ban on fishing in waters of the State stocked with trout extends to bow and arrow fishing for carp. Second, the Act specifies the long bow and arrow as the legal device, therefore, precludes the use of a cross bow or the bow gig.

Otherwise, the law's only effect is to add a new device, namely the long bow and arrow to the list of approved devices for the taking of carp only.

Whatever restrictions apply to the use of any other legal device, including those relating to lights, apply also to carp fishing with the

long bow and arrow. And there are no restrictions on fishing with a light except in the frog law and that applies only in the taking of frogs. A simple way to resolve all questions on the matter of the use of the bow and arrow is to ask—can this be done if the device is a hook and line instead of a long bow? If it can be done with a hook and a line, it is permitted when the device used is a bow and arrow.

The mere act of legalizing the bow and arrow for carp, however, may not condone the activity in the minds of the more sensitive, or to those who have firmly accepted the gospel of the previous limitation.

To reassure folks of those inclinations, the new law enjoyed the endorsement of the State's Sportsmen's Federation and many unaffiliated groups and individuals, from the outset. Aquatic biologists and fisheries managers are in agreement that any means by which carp control can be furthered without inflicting harm on other species of fish should be adopted.

The carp is a fish that never comes off its feeding binge. The fact that it grows much faster than other fishes in the same body of water, proves that point. Furthermore, it consumes the same types of food upon which the more desirable fishes depend. Secondly, the constant turbidity the carp's bottom stirring search creates, is a deterrent to the growth of vegetation.

This in turn decreases the food producing capacity of the affected water, the cover necessary to protect the small fry from excessive predation and could result in a lowered oxygen content. The latter represents no liability to carp, but does to the more desirable fishes whose oxygen needs for well being are higher. Aside from all this, fishing success drops as the water's turbidity increases.

Finally, though archery for carp is an innovation in Pennsylvania, at least 24 other states permit archery fishing. In many of those states, the overpopulation of suckers and gar prompted their being included with carp as fair game a-la-Robin Hood. In New York State, the Northern Pike is also on the list.

Numbered among the states that have legalized the bow and arrow as a legal device for these rough fishes are: New York, Maine, New Jersey, West Virginia, Maryland, Ohio, Kentucky, Indiana, Illinois, Michigan, Wisconsin, Florida, Minnesota, North and South Dakota, Oregon, Washington, California, Arizona, New Mexico, Oklahoma, Texas, Kansas and Arkansas.

For those of the outdoors fraternity who had earlier added the bow and arrow to their equipment array, little direction need be given to adapt tackle to this new use. However, for the conservation minded sportsmen desirous of joining the carp depleting operation, or for those who would carve a piece of the sport for personal enjoyment, a few tackle tips here might be welcome.

The weight of the bow can conform to the individual's physical capacities. In bow fishing for carp, a heavy or powerful bow is not necessary, as most of the shots will be at close or medium distances, in relatively shallow water. And driving the head of the arrow into a carp requires less power than needed to penetrate the hide or bone of a big game animal. Too, the head need only be driven into the carp far enough to engage the barb and the quarry is on to stay.

Arrows of fiberglass shaft, either hollow or solid, are recommended. The aluminum shaft, while not subject to water damage, is easily bent out of true upon striking or glancing from submerged rocks or stumps. Wooden shafts could be easily broken during the rolling struggle of a larger carp. A fishing arrow would best be equipped with rubber fletching, thus saving the archer the need for a feather straightening or refletching chore after each melee.

The arrow head may be any one of several heads now on the market that have been designed just for bow fishing. The choice of the detachable or firmly fixed head is also presented, but will be left rest to the preference of the archer.

The bow rig, in principal, is simplicity itself. It can be the product of a bit of ingenuity and the cost of a couple packs of cigarettes, or it can represent a several dollar investment for a commercial outfit as pictured, which is one of the better known and widely used assemblies.

It will be noted that the narrow block-like reel is taped to the face of the bow above the handle or riser. A length of heavy nylon line—approximately 20 yards, is sufficient—is wound in criss-cross fashion on the reel to allow it to "spin" off. The line is strung through a hole pierced at the nocking end of the arrow, laid through the fletching and along the shaft, and attached to the barbed arrowhead. This lash-up presents an arrowhead that detaches from the shaft which, during the play with the fish, is merely towed along out of the way. The small clamp on the reel should have only sufficient

BOW RIGS can be plain or fancy. Narrow block-like reel is taped to face of bow above riser. Line is heavy nylon about 20 yards in length. Arrow head is one of several now on market especially designed for carp fishing.



CARP à la ROBIN HOOD, Pennsylvania's "archer-angler" can now get to the perfectly legal business of putting the cold steel to the "hog of the waters."

pressure to hold the line and prevent it from spooling off when the aim is at a sharp downward angle.

A simpler arrangement would see the line attached only at the nocking point of an arrow with a fixed head. A large fish, however, in rolling over a shallow bottom could employ the leverage afforded by the arrow shaft and tear itself free.

The manner of playing or retrieving the fish also presents a choice. It may be done in hand over hand fashion, or the bow rig may be dispensed with entirely in favor of attaching the arrow to a conventional spin fishing outfit. The latter would only be feasible, however, while operating out of a boat, or with a partner to caddy the rod. As the carp is a skittish critter, the approach of two persons presents a further disadvantage.

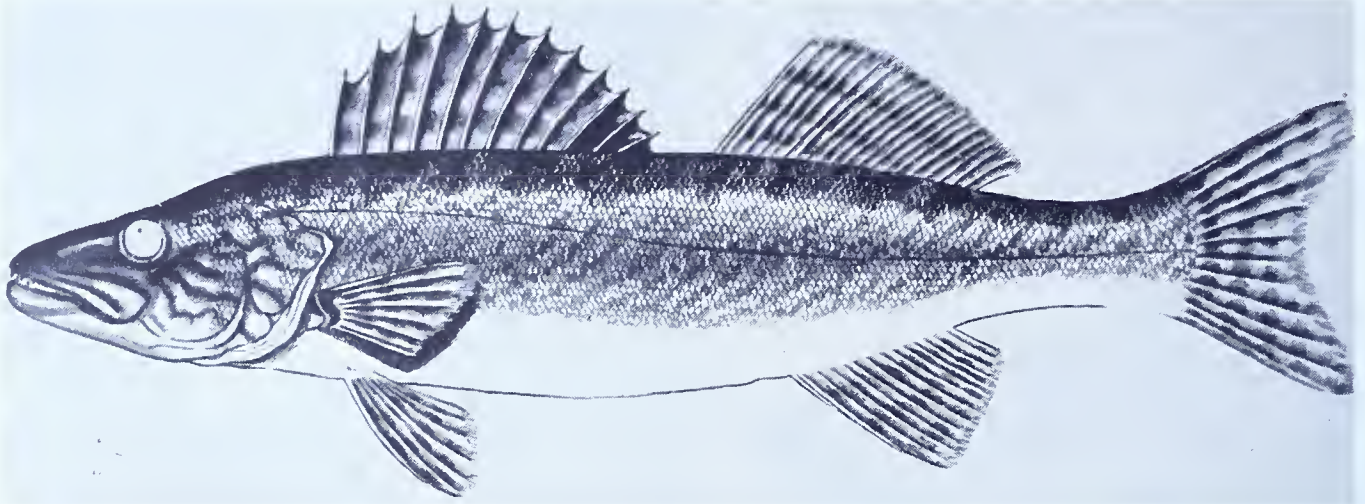
With the mood set and the equipment prescribed, all that remains to have some fun, is to know where to find carp and how to approach one.

A tip on where to find them was contained in the first sentence of this piece. In fact, there are few waters of the land into which carp have

not found their way, from the quieter stretches of the cold water trout streams in the North to bogs and bayous of the South.

There are those who contend early morning or evening are the best times of the day to stalk them. Other authorities confine their shooting to the hours of the day when the sun is high. But isn't it ever thus with fish and fishermen.

A few truisms, however, leave little room for argument. Caution in approaching close enough for a sure shot cannot be overemphasized. Also, allowance must be made for the refraction of light in the water. The tendency will be to overshoot. A little experience or practice with a tin plate or some other object that can be lain on the bottom will enable the archer to gain proper judgment of that factor. And if you are hungry enough, you can eat them with little extra fuss if they come from the cooler, cleaner waters. And if they come from the warm, mucky marshes or misused waters' of the land, whether baked, pickled, smoked or french fried, it's best to prepare them with liberal seasoning and on a pine plank and!



WALLEYE (*Stizostedion vitreum vitreum*)

One of our most popular Pennsylvania fishes because of its fine flesh that bakes to a gourmet's delight. Also called Pike Perch, Walleyed Pike and Susquehanna Salmon locally.

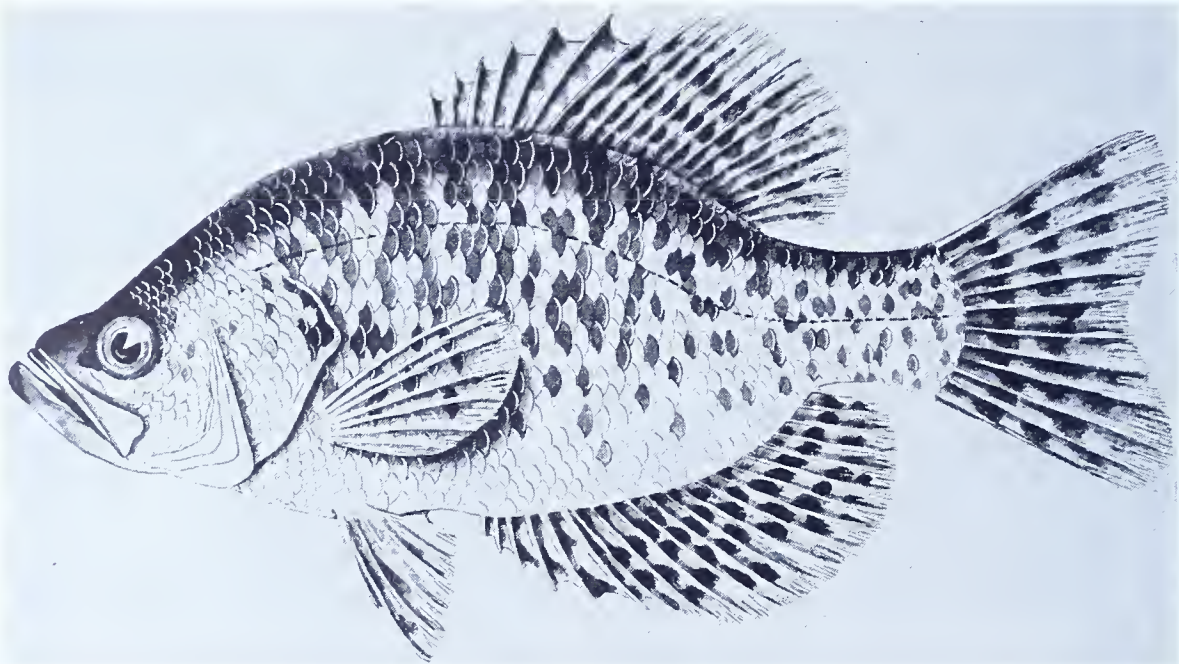
RANGE: Due to the ease with which the Walleye can be transplanted, is now found in almost every state except the far West and extreme South.

CHARACTERISTICS: Color varies with environment but is generally a dark olive green on back, shading lighter on sides with a yellowish cast, sometimes forming indefinite oblique bars. It is easily distinguished from true pike, has two clearly separated dorsal fins, a characteristic of the perch family. Pike have only one dorsal fin. The Walleye has large eyes with a glassy cast, hence the name. It has strong teeth and razor sharp gill covers.

HABITS: To some extent, a school fish, preferring dark, deep waters around rocks and ledges. They spawn in spring but do not prepare a nest; the eggs are dropped on a clean hard bottom, are fertilized by the male while being laid. Often as many as 50,000 eggs will be laid by the female.

FOOD: Minnows, small fish are favorites but worms, insects, frogs and crayfish are acceptable.

LURES: Sinking plugs, June Bug Spinner and nite crawlers, shiny spoons of all colors.



BLACK CRAPPIE (*Pomoxis nigromaculatus*)

The Black Crappie is often called Calico Bass and along with the White Crappie are the two largest panfishes, ardently sought by all-age anglers, good table fish.

RANGE: Originally, only native to area from southern Canada and Great Lakes to Florida, and Nebraska to the Gulf Coast but now abundant in every state.

CHARACTERISTICS: Black Crappie is usually heavier than the White Crappie of same length. The Black Crappie has 7 or more dorsal spines, the White, 7 or less. The Black Crappie, as name implies, is darker in color than the White.

HABITS: Black Crappies are school fish. Once a school is located a goodly number of fish are taken from the same location. While usually preferring lakes to streams they are abundant in both.

FOOD: Insects, worms, larvae, crawfish, small crustaceans, also small minnows.

LURES: Flies, fly and spinner combinations, also small plugs, worms, minnows.



YELLOW PERCH (*Perca flavescens*)

One of the most popular panfish, fine flavor, well loved by anglers.

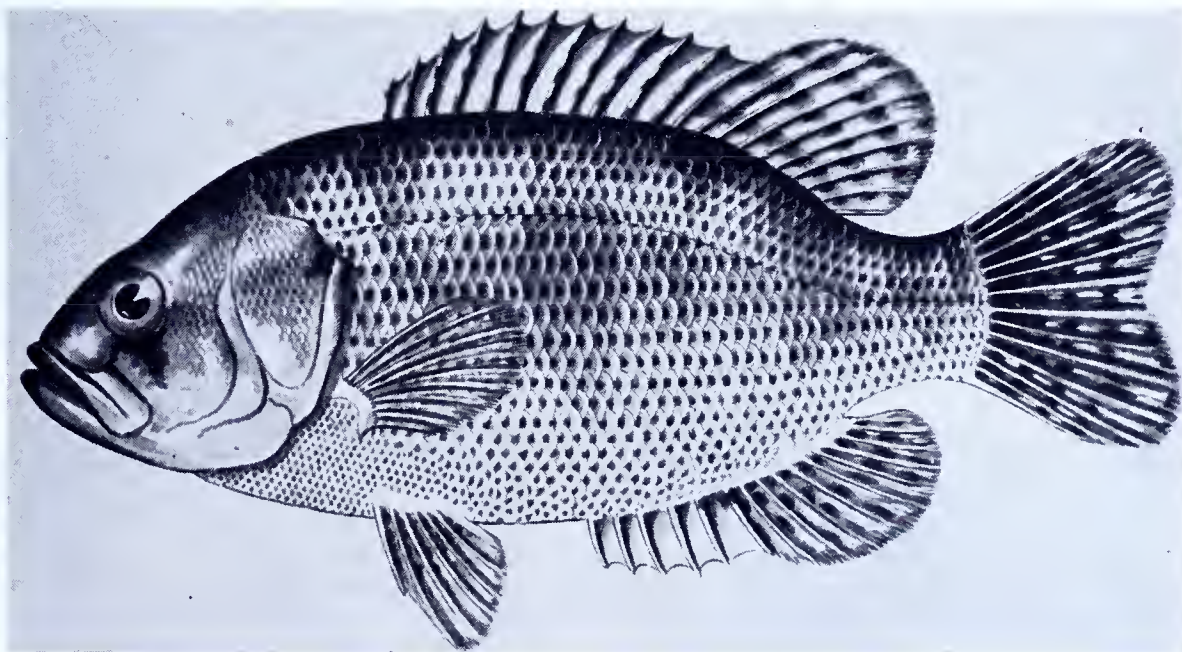
RANGE: Now introduced in almost every state although only originally found from southern Canada to the Carolinas and from eastern seaboard westward to Minnesota.

CHARACTERISTICS: Dark olive green on back blending to golden yellow on sides, belly white. Sides are prominently marked by 6 to 8 broad vertical dark colored bands of olive-green color. This fish has a humpbacked appearance due to the head being concave above the eyes and before the beginning of the dorsal fins which are divided, a true classifying feature of the perch family, distinguishing it from the sunfish family.

HABITS: A school fish, where one is caught there will be others. Spawning occurs in spring. No nest is prepared but female produces eggs in a zig-zag gelatinous string which the male fertilizes as they appear. The egg ropes drift to bottom, become lodged on logs, roots, rushes or other obstructions. Young hatch in about a week and immediately forage for themselves.

FOOD: Worms, minnows, grubs, insects, flies, small crustaceans.

LURES: Flies, fly and spinner combinations, small spinning lures, worms, small minnows.



ROCK BASS (*Ambloplites rupestris*)

A most popular panfish with all anglers, called "redestye" and "goggleye" locally.

RANGE: Almost everywhere in the United States.

CHARACTERISTICS: Chunky body, with single dorsal fin, front or spinous portion has 10 to 12 spines, anal fin with 5 to 7 spines. Mouth large in comparison to body, when closed extends past middle of redestye. Usually has black spot on gill cover. Weighs average of ½ pound in Pennsylvania. Reaches 2 pounds in South.

HABITS: Usually school fish, like to hang around stumps or underwater obstructions, grass beds, etc. Male prepares nest and guards it. Nests poorly made in shallow water. Usually breed so prolifically they overpopulate waters and become stunted in growth.

FOOD: Insects, grubs, worms, small minnows, crawfish, hellgrammites, larvae, crustaceans.

LURES: Flies, spinner and fly combinations, small plugs and popper and bass bugs, worms and minnows.

Redistribution of mayflies

By CHARLES K. FOX

Reprinted from Charles M. Wetzel's book, "Trout Flies"



THE only situation which is responsible for a fine rise of the better trout of a given stream is the presence in quantity of some large insect floating on the surface of the water. When this condition does not exist, the most cherished fish feed below the water's surface and are not tempted by the dry fly.

Of all the hatches, the Green Drake—*guttulata*—enjoys the reputation of bringing about the ultimate in angling for trout.

Roger Wooley, in his excellent book, *Modern Trout Fly Dressing*, writes; "The sight of practically all the trout in a stream rising well at the same time has given the impression that the trout's "silly season" is the duffer's opportunity to make large captures. This will not be found always or even often the case, and frequently just as much skill will be found to be necessary when fishing the mayfly, as when fishing the imitations of the smaller *Ephemera*. So let not the mayfly carnival be looked upon as a time for great slaughter, but rather as a time for extra careful fishing for the big fish of the stream, the fish that may have an inclination to turn cannibals and that rarely give the opportunity of their capture with smaller flies. Happy is the angler who can be on a trout stream daily from the beginning to the end of a mayfly season, with a good rise of fly on, for most interesting and instructive will be his experiences, if only he is not too

keen on catching fish and has the observant eye to notice the wonders that will unfold themselves."

Ironically this spectacular hatch, so highly regarded, frequently pursued and carefully observed by the angler, does not exist in every cold water stream or even section of Pennsylvania. The fact that it marks its appearance in all of the limestone streams and some of the freestone waters of the central counties of the state and some other isolated sections, but does not appear in the great limestone section of southeastern Pennsylvania prompted the thought that it might be successfully transplanted to this area where it is nonexistent. Members of the Fly Fisher's Club of Harrisburg were determined to make an honest effort to introduce the insect.

There are three possible methods of approach in the matter of redistribution. The first is to transfer the nymph. In view of the fact that the larva of the insect in question is so difficult to capture, this is not practical. In regard to the nymph Dr. Lyte, eminent angler of Allentown, writes as follows in a personal letter: "Some years ago a friend and myself gathered a bucket of mud from the side banks of the Little Lehigh, containing some water and a good number of mayfly nymphs. It was late in the evening, so we put the bucket in the cellar over night. In the meantime the larva emerged and our cellar was full of mayflies. It was our intention to plant them in another stream." He adds that the nymphs were difficult to catch.

The second method is to transplant the fly. In the dun (sub-imago) stage, they are delicate. Spinners

(imago) cannot be captured, transplanted and released, for sufficient time does not exist between the nuptial flight and the depositing of the eggs to permit transportation.

The third alternative is to transplant the egg. This method makes it possible to deal in volume and this was the system that the Club elected to adopt.

After missing the hatch on four or five streams in late May and early June of 1946, it appeared that it was over everywhere for the year; then the information was relayed by a long distance telephone call that a heavy hatch of duns was in progress on Honey Creek. A hatch of spinners should follow this emergence by 48 hours.

We chose a spot at an island along the hard road approximately three miles above the point where Honey Creek flows into the Kishacoquillis. There was a wooded area one-quarter of a mile down stream, which should harbor many flies during the molt.

Upon our arrival at six o'clock on the evening of June 9, 1946, it was bright and clear, a condition which brings about a late evening hatch but a concentrated one. Some duns were emerging. Many male spinners were flying about the tree tops but no females were in evidence upon our arrival.

About one hour before dark the female spinners left the foliage almost simultaneously, and the nuptial flight quickly developed. Forty-five minutes before dark the fertilized females descended and started their slow migration up stream, which immediately succeeds the laying of the eggs.

This is a large drake, pale in color and identical in appearance to the Spring Creek specimen. Along with it was another fine, large drake, dark brown in color and later identified as *Ephemera simulans*.

A boiler one-third full of water was placed on the island. Two men with nets were stationed in each channel beside the island. The flies in their slow cumbersome up-stream migration followed the water course and did not travel over the island. It was our first thought that netting could be accomplished from the island and from a wooden bridge 20 feet above the water, situated 100 yards above the island. It was soon discovered that it was necessary to operate from the water, for the concentrated flight was near the surface and confined its course within the shorelines.

The hatch was heavy. It was possible to swing the net back and forth until a mass of 25 or more flies was in the bag, before emptying into a wash boiler. At times at the peak of activity two or three females were captured with one swipe of the net.

After being dumped into the boilers they quivered on the surface of the water. This action apparently accompanied the expulsion of the egg masses. The eggs fill the thorax up to the head in two parallel sacks. It is our belief that a gas is generated which forces the eggs to drop in masses but not all at one time.

During the 45 minutes of concentrated flight we believe we averaged 15 flies per minute or 675 per net making a total of 2700 flies. Halford has written that according to microscopic count each female carries slightly over 7000 eggs. On this basis the total number

of eggs secured that evening was approximately 19,000,000, 90 per cent *guttulata* eggs and 10 per cent *simulans*.

The following evening was probably more effective, for there were five nets in operation and a refinement was the addition of a removable cloth bottom in each boiler to which great masses of eggs adhered.

Upon arriving at the Letort, approximately two hours later, the following steps were taken. The dead and few dying females were placed in a wire box and submerged, on the theory that some eggs had adhered to the bodies and wings. The milky colored water of the boilers was poured into the stream. The cloth bottoms on which there was a layer of eggs one-eighth of an inch deep were ripped into strips and pegged to the stream bottom. These strips were literally heavy with egg masses. The boilers themselves, to which eggs had adhered, were submerged. Finally the cloth liners of the nets, to which eggs had adhered and which had been transported submerged in buckets, were planted.

Halford has written that the eggs of the Mayfly hatched in nine days in an aquarium.

Dr. B. W. Kunkel, former head of the Biology Department of Lafayette College, is of the belief that a loss of eggs was suffered due to overcrowding. This could readily be overcome by the insertion of additional cloth bottoms during the netting operation.

The three leading authorities of the United States were requested to comment and pass judgment on this enterprise following the 1946 endeavor. In addition to the method of capture, transportation, and stocking the following facts were set forth. The streams stocked are less than 100 miles distant from the area of great hatches, and about 40 miles further south. The difference in elevation is less than 1000 feet. A mountain range segregates the two. The stream characteristics appear to be similar in respect to bottom and vegetation.

Contents of a letter from Paul R. Needham, Director of Fisheries, Oregon in 1946, formerly of Cornell University and author of *Better Trout Streams*:

"It seems to me that if conditions were suitable in the area described, *guttulata* should certainly



be present, in spite of the fact that the two sections are separated by a mountainous area. Winged forms such as mayflies distribute themselves long distances and if conditions are suitable will usually be found in waters to which they are adapted.

"A number of years ago, we introduced the burrowing mayfly nymph into Mr. E. R. Hewitt's waters on the Neversink River in the Catskills. I do not believe that they ever "took" there because conditions were not suitable. You might write to Mr. E. R. Hewitt about this and ask him if he could give you the latest word on it. His address is 127 E. Twenty-first Street, New York.

The green drake in nymph form is a burrower in silt beds in both lakes and streams. If the stream that you described did not possess deep beds of silt it is likely that they failed to find conditions suitable, and as a result never developed.

"It seems to me your method of introduction was satisfactory and if conditions had been suitable, they should have developed.

"I, personally, am quite pessimistic about your chances of being able to establish them in an area in which they are not already present. Often times small changes from their home habitat are enough to block success. Your approach was all right and you are correct in the assumption that usually the green drakes require three years in the nymph stage.

"I am sorry that I cannot give you more specific aid in this problem."

Contents of a letter from Charles Wetzel, author of *Trout Flies*:

"Your method of redistributing mayflies opened up an entirely new avenue of approach. I had never thought of that angle; however, I don't see why it should not work, providing the eggs were properly fertilized before being put out into the stream. As you know copulation occurs in the air only a short time before the female spinner starts depositing her eggs on the water. I have never been definitely able to determine how the latter operation is accomplished, although I have caught many female spinners that had two sacks of eggs protruding from her abdomen, which leads me to believe that they are deposited in a mass. What is your theory on this angle? As I mentioned, if the act of copulation occurred before the flies were put into the wash boilers, then your chances of success are very good, providing the same stream bed conditions as applied to the parent stream are encountered. I have found that this is a very important matter. Some streams will just not harbor certain species.

"The fly on Spring Creek is *E. guttulata*. There was same doubt in McDunnough's mind (he is the Canadian Mayfly specialist) because the Spring Creek fly is somewhat larger than that found on other streams; however, he took the matter up with Speith and Needham, and the consensus of opinion was that it was the same fly, only somewhat larger. It is hard to tell if the flies on Spruce Creek and Stone Creek are the same species. I am convinced that it is possible to transplant different species on the same water and get hatches at different times—but the stream bed conditions should be the same.



I should think that by the third year you will begin to see results, although in my case the flies started emerging about a week after they appeared on the parent stream, that is, three years plus one week to be exact.

"When I originally transplanted the Green Drakes in Middle Creek, I did it by the nymphs; that is, the nymphs were collected and transplanted, but the method was wrong. Many of them were injured in collecting, and it was too big a job to gather them in abundance. The successful program was accomplished by transferring the sub-imagoes in wire cages to the stream, and then liberating them. The fly now comes on yearly in abundance, although I don't believe there was more than 2500 in the original stocking. The ratio of females to males was about three to one, and the following evening after liberating them the spinners were observed laying their eggs naturally on the water."

Contents of a letter from Edward R. Hewitt, dean of American trout anglers and author of *Telling On the Trout*:

"Your mayfly stocking will probably succeed to some extent, but you did not adopt the best method. This transfer of mayflies is very common in England, where the hatch is quite often all killed out from a stream or a section of stream by bad rainy weather when the flies are in the bushes changing their skins. If rain occurs then, they all perish. Mr. Lunn, the Keeper at the Houghton Club on the Test, worked out the best method of transferring mayflies, which is in regular use in England. He catches the flies about to lay eggs and puts them under a wire cover such as is used to keep off flies in restaurants and puts the cover over a china plate which contains water. When the eggs are laid he stacks the plates one over the other, with a strip of board in between them to keep them apart. The stack is taken to the place to be stocked and the plate placed on the bottom of the brook in a suitable place. They should be well scattered so as to get good distribution. When the eggs are hatched the plates are recovered. This method is completely successful.

"While the mayfly makes a very short time of very good fishing, it does not furnish any food for the trout during the rest of the year, and when

the mayfly hatch is over the trout are stuffed and won't take surface flies well for some time. It has the advantage of bringing up the big trout to a fly better than other flies. They have a whole series of flies in English chalk streams, which hatch all during the season and provide good dry fly fishing all the year. I have arranged with Lunn to ship over a large number of the eggs of these flies for the Castilia stream in Ohio. They will arrive next June. The Castilia stream is very similar to the Test in water and in vegetation, and I am sure these flies will do well there.

"The mayfly is very variable in streams. It will exist for many years in a stream and then die out entirely, probably due to the weather killing the females. I have known many streams which had them at times and then they all disappeared. They can be reestablished by planting the eggs. The flies will hatch out at various times, from the same female; the flies will hatch in one, two, or three years from the same hatch of eggs. Lunn proved this in his aquarium. There are many families of mayflies. In some the nymphs can live in sandy bottom, in others in gravel, and in others in stony bottom. If the mayfly selected for planting is not suitable to the bottom the plant will be a failure. The bottoms of the streams must be similar when a transfer is to be made.

"In some streams the water conditions are such that every few years all the nymphs are killed out. This is true of any stream where the ice freezes on the bottom. I got mayflies started on the Neversink and they persisted for three years and then all were killed. This is why there are none on the Neversink. The conditions become impossible for them every few years. This may be true of the streams you are trying to stock. You may get them started and then they may all disappear in a few years. This is probably why they are not already in these streams. If your planting fails later on, don't be worried. You will then know that these

streams have conditions at times unsuitable for mayflies. Only a few streams in this country will continually carry a mayfly population for many years at a time.

"The Willowemoc above Livingston Manor had the largest mayfly hatch I ever knew about fifty years ago. None have been seen there in twenty years now. They exist in the lower river but have never come back above. I don't know why.

"We don't know very much about the conditions which are suitable for the mayfly. These conditions must be suitable over the whole year and no one ever studies a stream for every day in the year and many years on end. It is quite likely that you will succeed in getting a mayfly hatch in streams where there are none now, but it is very doubtful if such a hatch will persist over many years in succession. If conditions were really suitable for mayflies they would already be there."

The practice was followed for at least two evenings of the hatch for each of the three following years, 1947 through 1949; and in each of these years distribution was made in four limestone streams of Cumberland County, Pennsylvania: Yellow Breeches Creek, Big Spring, the Letort and Cedar Run.

There were several refinements initiated after the two experiences of the first year. In order not to crowd the eggs more than necessary, several wash boilers were utilized instead of one. In addition to lining the boilers with cloth, small stones wrapped in cloth were placed on the bottom of each boiler, thus creating greater surface area and facilitating distribution. The boilers were three quarters filled with water so the eggs could adhere to a greater area of cloth.

Observation revealed that both the scuds and sow bugs (shrimp and cress bugs), which abound in limestone streams collected on the strips of cloth bearing the precious cargo; and the assumption was, that being carnivorous and scavengers, they were preying on the eggs. No doubt the crayfish in their nocturnal feeding activity did the same. To afford the utmost protection, the strips were placed in tubular containers made from hardware-cloth, the ends being stapled after insertion of the egg-laden cloth. These cages were then submerged in appropriate channels.

It is common belief that the Green Drake is in the nymph stage for three years. To bring about quickest and surest possibility for a sustained hatch, it was decided that the experiment should be carried on for at least three consecutive years at the same spots. (Actually it was conducted for three years under the most exacting scale possible, but the first year was charged to experience with the hope that some results were achieved.)

Much to our amazement the first emergence occurred the first year following the planting, proving that at least a few complete the metamorphose in one year. Probably others hatch in two years, something which could not be proved, and the predominant hatch taking place the third year—nature's method of perpetuation in the event of catastrophe.



Each season the spinners were netted between the 8th and 14th of June. Surprisingly, the duns and spinners observed on the stocked waters appeared between the 19th and 29th of May, indicating that the variation in temperature accelerated development.

As the years rolled along, no bonafide fishing hatch—either duns or spinners—of the Green Drake developed and during the seasons of '54 and '55 none at all were observed, although it is possible that some did emerge and return to deposit their eggs. The fact of the matter is that this hatch does not appear to have become acclimated to this environment, a really great disappointment. But the effort was not in vain. *Simulans*, the other big Mayfly which was netted at the same time, however in smaller quantity, is apparently here to stay and in quantity. *Simulans*, almost as large in size as *guttulata* and as interesting a hatch in every respect, has taken hold well on two of the four streams. It may have become established on the other two streams and may be emerging at the same time. Due to the fact that the interested individuals are capitalizing upon the resultant fishing hatch on two of

the streams, they cannot be sure just what is transpiring in other parts over the same period of time.

The accepted imitation of the imago of *simulans* (now locally called Brown Drake) is a number 10 Adams with a canary yellow body. In one respect the fly has a tremendous advantage over the Green Drake: the fall of spinners sometimes settles on the water as early as 6:30 P. M. whereas *guttulata* usually holds back until dusk. One interesting aspect to date is the fact that as yet *simulans* has not spread over its normal span of time. Two evenings a year is the limit to date. The sub-imago must emerge at night, for very few duns have been observed on the water or leaving the water in spite of the fact that spinners occur in quantity.

Dr. Paul Needham is of the opinion that so long as there are a few remaining pairs of an aquatic insect in a watershed there is hope for the reestablishment of the hatch. Both *simulans* and *guttulata* may through the years become thoroughly entrenched in the limestone spring-streams of the Cumberland Valley. However, prospects for the former appear to be excellent, the chances of the latter, poor.

By ALBERT G. SHIMMEL

A wet fly primer

MOST trout anglers of past generations began their angling with wet flies. Many of the individuals to take up angling recently have looked upon the lowly wet fly as a stop gap method when the fish will not rise to a dry. As a result they fish it rather carelessly and never become proficient in the ancient and deadly art of the under water fly.

The use of wets dominated the angling scene for centuries as experts developed patterns and techniques to meet various conditions of water and seasons. The accomplished wet fly angler will shade all others if an average is taken throughout the season. A wet will kill when the early season snow-water is in the streams, during the night and early morning of the warm season when hatches are scanty and fail to bring surface activity. A tiny wet drifted at the end of a long fine leader will sometimes take late season lunkers that have survived a barrage of lures.

Field practices with a wet fly begin with the selection of materials and the handling of these materials at the vise. The Model Perfect in the regular wet fly weight and in the finest dry fly hooks obtainable are good for basic experiments. The use of the fine dry fly hook for wet fly patterns may startle many beginners and some experienced anglers. The use of these lightly tied dry-wets is one of the tricks that makes the wet fly so versatile and deadly. Body materials consist of practically anything that can be wrapped around a hook and give an imitation of the body of some bit of aquatic or terrestrial food. Your preference should be based on color, durability, ease with which it absorbs water and availability.

Hackles are of the softest and at the same time most lustrous feathers available. Many are hen hackles but the toppings of grouse, the saddles of grouse and wood cock and the breast of partridge are used in many patterns. Some of the traditional patterns call for special feathers or hackles of dyed colors. These are very satisfactory, particularly the dyed feathers as the removal of the natural oils help them to absorb water and thus they sink readily. Wings are made from a variety of feathers and hair. The traditional wings for

wet patterns are the sections cut from the web of primary flight feathers of waterfowl or other large birds. Other patterns require the flank feathers of wood duck, teal or mandarin.

One of the questions often asked by beginners is, "how large the wings on a wet fly?" A well proportioned fly has wings the exact length of the hook from eye to bend. When this size is tied in a fourth of the shank length behind the eye (to make allowance for head and hackle) the wings extend slightly beyond the bend of the hook. The proper width of a wing is the width from barb to shank although some anglers prefer a somewhat narrower version. Tails, if any, are made approximately two thirds the length of the wing although the writer prefers abnormally long tails on certain patterns. These long soft tails and the soft wings have some movement in the current that adds much to the killing quality of the fly.

There are a number of methods of fishing the wet fly. The most common is to attach two or three droppers to a leader at two to three foot intervals using an assortment of patterns. These are cast across the stream and allowed to swing down and across the current on a tight line. The point fly is under the surface while the others ride on or just above the water. This is one older standard method that has been used for years. Fish striking against a taunt line are readily hooked. A variation of this method has been named the Dead Drift. The flies are cast above and across the stream and allowed to float on a slack line that will not hamper the direction of the float or the pull of the current. The trick is to allow the flies to follow the drift of natural foods without drag, yet keep the line taunt enough to hook a striking fish. The flies used in this method should be tied on light wire hooks. It helps the angler if the top fly is of a color easily seen.

One of the deadliest methods of early season is to sink the fly deeply and allow it to drift slowly across the eddies and back waters where sunken debris mark the settling places of current borne drift. Early season trout seek out these locations and use them for feeding and resting locations. Occasionally the angler drifts these deep locations with a shot attached a few inches above the fly to assure proper depth. This method requires a deft touch and a thorough knowledge of the deep currents, one that requires intense concentration. Only a few individuals become skillful for most of us practice it as a "last resort" method and never master it fully.

When the water warms and the evening hatches are present, many anglers neglect wet flies and think only in terms of floaters. The wet is still a productive method for early morning and as the light increases the fly is fished nearer to the surface. Many a trout that refuses a floater will take a small wet fished dry fly fashion just under the surface. This upstream fishing calls for a fly dressed on a fine hook that will float on or just under the surface at the end of a long fine leader. Buoyant materials help the makeup of this specialized fly. Occasionally a two fly cast will take trout on those clear bright days of late season when most anglers have given up in disgust. Eighteen and twenty-sized midges are favored in dark or medium colors.

Spinning tackle and the plastic waterweighted bubble have given another effective method of fishing the wets. The bubble is attached to a monofilament line of four pound weight. Two droppers are attached; one about three inches long is hung a scant foot above the bubble and another about eight or ten inches is attached two feet above. Small plump-bodied hackle flies make good lures. The bubble is cast across the stream and the flies held off the water by a high rod are made to dip and dance by manipulating the rod. This action will often drive trout to abandon all caution. A Brown I met above a pound in weight came clear of the surface three times in frantic effort to catch the bobbing fly. When he finally connected the hook was well inside his mouth. This is a spectacular method of taking trout and will also work occasionally on stream smallmouth bass at times when other lures fail.

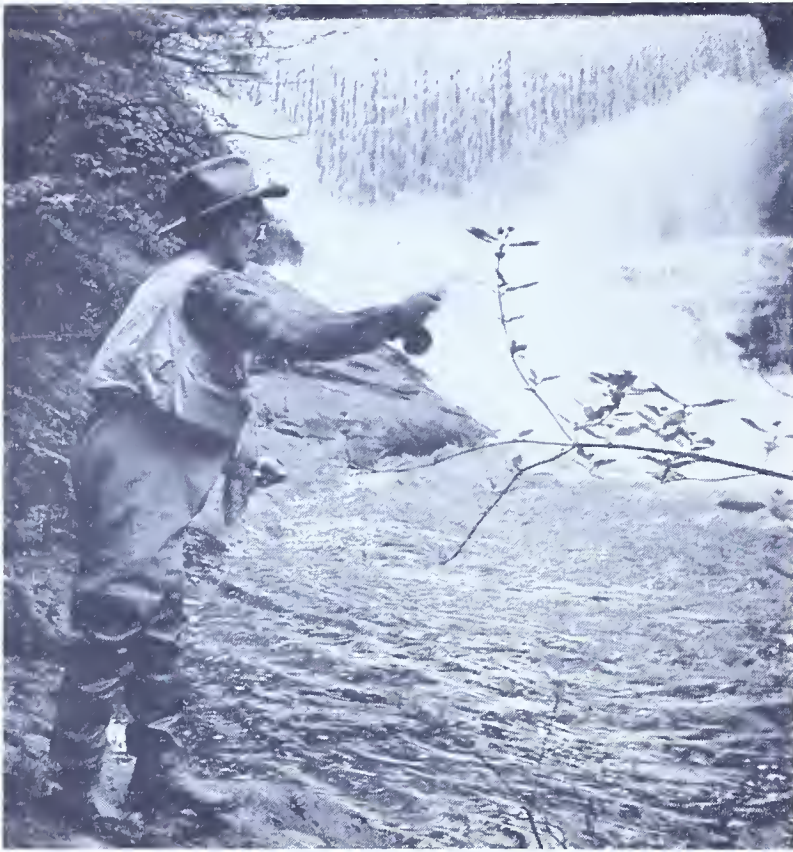
Another deadly method occasionally used with success both on trout and bass is to attach a medium-sized wet fly about eighteen inches above a small sub-surface wobbling plug. This rig fished on a light line from a spinning rod is productive, especially in big waters. It may be fish take the lure for another small fish in pursuit of a bit of food and obligingly try to give the little fellow a lift. Whatever the motive the result is certain.

The question of pattern is generally uppermost in the mind of the beginner. The small dark patterns are generally best for early season and early morning of late season. The larger and lighter patterns are effective as the season progresses toward mid-season and the peak of the hatches are reached. By mid June, smaller flies are again the order of the day. Small light patterns are added to the kit.

To claim that in any list of patterns there are only a few effective ones for a certain stream or season would be the height of folly yet certain patterns have the ability to produce fish year after year. A list of patterns that have been culled from the favorites of several anglers with experience that covers two decades reads as follows. Early season: Newville Midge, Brown Stone, March Brown, Blue Dun, Leadwinged Coachman and Red Quill. Mid season: add Ginger Quill, Light Cahill, Iron Blue Dun, Pale Evening Dun, and the Partridge Spiders with yellow and orange bodies. The late season list would include the Gray Hackle Yellow, Stone Fly, Midges in black, white, dun and green bodies and Pink Lady. Three fancy patterns are added in size twelve or smaller. They are the Silver Doctor, Dusty Miller and Royal Coachman. It is surprising how often these so-called salmon patterns produce when local favorites fail. They have the added value of challenge to the amateur who rolls his own.

One expert limits himself to one pattern and does very well. His favorite is the Blue Dun and its variations. His fly books are crammed with this fly in all shades from the pale to the darkest gray that is almost black. I noticed that he ribs some with tinsel and occasionally tips some of his specimens with a single turn of red or yellow silk.

The beginner would do well to ask the local experts advice and then pick a half dozen effective patterns as a basis for his kit. Experience will add and eliminate patterns until he has formed definite opinions from experience.



Back Yard Fish'n

By ART CLARK

EVER listen to the sad tale of the anglers who motored hundreds of miles to that mountain utopia where the trout were all monsters, and then returned home sans a single trout while their stay-at-home brothers picked up a couple of lunkers in a near-by creek???

This story has been repeated to us on so many occasions that our early fishing habits were designed to so called back yard fishing; that is, fishing nearby streams. Since they were close to home, they were available for fishing more often. We reasoned that the more we were able to fish a stream, solving it's fishing problems would be realized more quickly.

For that reason most fishing has been carried out within a fifty mile radius of our home in Havertown, Pa. This practice gives us ample time for daily trips to numerous well stocked trout streams close to our eastern metropolitan area. It is surprising how well our back-yard fishing plan has kept the creel moderately full. Not just pint size trout and hass, either. We have had our share of lunkers in both the trout and bass families, much to the consternation of our well traveled angler friends. My advice to both the neophyte as well as the old "Pro" . . . learn how to catch fish in your back-yard streams before you tackle the distant and unknown waters.

Our nearby trips also enable the inclusion of the rest of the family, fishing as well as non-fishing members. We motored out Route 23 one morning with my wife, Leona, son, Don and his wife, Doris. We turned off 23 at Warwick and thence to the French Creek Park. The area is a living tribute to the combined efforts of the Fish & Game Commissions for it is a veritable outdoorsmen's paradise. We first visited Hope-well Village and the old Iron Furnace, two historical monuments to our industrious forefathers.

During the trout season, we are accustomed to take a similar trip out Route 23, but we leave it at Knauertown and travel north to the falls of French Creek at St. Peters. This trout fishing, picnicking paradise is a picturesque spot nestled in a tree laden valley replete with a bolder crammed big stream harboring capricious brown trout.

Downstream lies the town of Pughtown along Route 100. While the town is probably better known as a source of locating the big French Creek; our youngsters remember it better as a source of double-decker cones. A delightful way to refresh the soul after scampering over the ankle busting boulders for which this part of the creek is so well known.

Later our travels take us about three miles further downstream to Sheeder's Farm, here, near Wilson's Corner lies another monument to those ingenious forefathers . . . a well preserved and still bearing it's traffic burden, a unique covered bridge.

We will never forget our first encounter with the denizens of that covered bridge. While casting beneath it one crisp morning, we snared several lines. The owners of the lines were not to be seen. We were pleasantly surprised when several touselled heads popped out of the holes in the side of that old antique. They belonged to several junior anglers who were using the shelter of the bridge and dropping their lines to the unsuspecting trout in the waters below.

Close by the covered bridge is another spot that will always bring back nostalgic memories. Here, in a rock sheltered pool, Dr. Cleveland and I discovered the lair of the "Gold Plated" brown trout. We labelled him the monster of the old covered bridge.

"Doc" spent the balance of the day in a futile effort to place his fly within taking distance of that old brownie. It took several more futile trips and most

of our trout lore before we almost admitted defeat. The third trip to try our luck on the monster of the bridge met with success. Car mileage plus a moderate fifty cents per day value on fisherman's time brought the price of that monster up to two bucks per inch. Yes, we calculated his value at thirty-two dollars from stem to stern.

It was also at the old covered bridge that the Lady Fly-Fisherman, caught her monster brownie; a plump eighteen incher. What an eventful day that was. There is nothing as graceful as the female angler, especially when they tie into a big trout.

French Creek also harbors quite a few smallmouths. They are usually found lurking in the pool ends and gobble your fly with gusto. While the hooked trout often give in rather submissively, the bronzeback never stops fighting and always seems to have the last silent word through the medium of his baleful, glowing eyes as you horse him to submission.

Closer to home is that typical fast flowing almost metropolitan stream, Ridley Creek. We reach it via Baltimore Pike just a short distance west of the town of Media. Brooks, browns and rainbows have been placed in it's waters, through the years, by the Fish Commission. The town of Media uses the waters as a source of water supply and therefore almost the entire length of the stream is kept in excellent state of cleanliness.

Further out Baltimore Pike we can reach Chester Creek where it tunnels the pike. It is the largest of our local streams and extends upstream for a distance of approximately ten miles. More browns and rainbows are placed in this stream than any of the other Delaware County streams.

The stream is fed by numerous spring fed feeder streams and has given up many a lunker brownie. Fishing this creek oftimes will tax the patience of a "Job". Low overhanging branches and weed studded banks offer more hazards to the fly fisherman than the thousands of fishermen found along it's banks in the early season.

Upstream near Locksley Station during last year's trout season we stood helpless while a large brownie went about his feeding chores with all the exasperating insolence of an untouchable. This was the second time he had evaded our best efforts to bring him to creel. Some day we'll solve that tackle buster and wipe that smirk from his bedeviled face.

We hear rumors that Chester Creek will be improved. We do not know who will benefit, whether it will be the fly fisherman or the bait boys. To placate the frenzy of one of the landowners who has been disturbed by bait digging, we suspect a portion of the stream will be made into a fly fishing ONLY area. Whatever the solution the main thing to remember is that a stream should be kept open to fishermen even if their fishing methods are restricted.

Further out Baltimore Pike is another county trout stream called the West Branch of Chester Creek. The

stream comprises some six miles of beautiful waters before it returns to the main branch. Anglers usually start fishing the creek at the town of Markham along the Pike. Markham is the smallest community in this area and owes it's historical prominence in the community as the location of one of the earlier grist mills. The old mill is still intact although the mill-race and water wheel has long since fallen away.

It was on the West Branch that we first experienced a caterpillar hatch, and it's effect on feeding trout. The brookies were gorging themselves on thousands of tent caterpillars that had fallen into the stream. Luckily for us, the brookies were unable to distinguish the difference between the caterpillar and our deer hair Surface Nymph.

Route 1, or Baltimore Pike is the Delaware Countians open road to trout fishing. It is the direct route to three county streams previously mentioned, but by extending our mileage and staying within the fifty-mile radius we can use the Pike to reach yet another fine trout stream.

The White Clay Creek near Avondale, Pa. can be reached via the Baltimore Pike to Route 41 then south on 41 about one mile to a small country road, identified by the sign post marked Landenberg. A short jaunt will reach the best waters of the White Clay. In the steep, forested gorge near the steel bridge, the fisherman feels transplanted to the upstate mountain trout streams.

Of all local streams this one we must admit appears to hold the brownies that are the hardest to catch. It is a hellgrammite infested stream and the brownies appear to be well fed. For reasons best known to the Fish Commission, this lower stretch of the White Clay is stocked exclusively with brown trout.

In another direction but still close to home lies the beautiful waters of the Wissahickon Creek probably one of the really true trout streams lying within big city limits. Here city fellows can fly fish to their hearts content and still not leave Philadelphia.

Due to it's location it is naturally a crowded, well fished stream. But, here many expert fly fishermen come to cast and improve their casting methods. Anyone can improve or learn how to cast by watching these men.

Fishermen seem to enjoy the crowded conditions that are such a contrast to more private waters. Expert casters seem to enjoy imparting some of their skills and knowledge. It is sportsmanship in the making. Our Delaware County Field & Stream Junior fishing club members make contact with the experts on the Wissahickon and come away the better for it.

This discussion of back-yard fishing has just covered a portion of the available streams within easy reach of our home in Havertown, Pa. In later issues of the ANGLER we plan to cover many of the other back-yard spots that have served to keep us among the trout catching members of the fishing clan who are sometimes called "stay-at-home" fishermen.

*Conservation now seems like a lot of hard work that
accumulated from a lot of easy things we didn't do
when we should have.*



Beaver Co. Wins PFSC Conservation Awards

Beaver County walked away with the top 1955 conservation honors in Pennsylvania as they won the coveted title of 'County-Of-The-Year' award as sponsored annually by the PFSC. Announcement of the winner was made during the spring convention as the sealed envelopes of the three judges were opened. Berks County Federation (first time entry) took second position while Warren, a two time winner came in third.

Formal presentation of the large 42 inch trophy was made when President Ray H. Armstrong turned over the custodianship of the hardware to G. E. Bargerstock, Beaver County delegate. Winners in other years were: Warren (twice), Delaware, and a tie in 1955 with Cambria and Centre county sharing honors.

Along with taking a 'leg' on the trophy, Beaver county also carried away \$100 in fishing tackle. Included in the 'loot' were 40 GUDEBROD lines of various types, with some of their new G-5 floaters; one double tapered ASHWAY trout line; three of WEBER'S new all nylon reels; along with other assorted lures.

"It is wonderful to read of the great emphasis placed on contributions of lasting nature," wrote Judge Charlie K. Fox of R. 6, Carlisle, as he commented on the entries. "It is more valuable to bring about a clear cut understanding of fundamentals than to organize a caravan to follow a fish truck.

"It is a greater contribution to improve environment than to launch a campaign against predators; it's more important to build and landscape a lake than to throw a first rate party; and it's more important to bring about good relations with property owners than to secure the appointment of a favorite son."

The three judges, since the beginning of the contest, included: Charles K. Fox, national authority on fresh water fishing; Johnny Mock, editor of OUTDOORS for The Pittsburgh Press; and Dr. Francis J. Trembley of Lehigh University, Bethlehem.

CConservation

Fisherman's Paradise Opens

Pennsylvania's renowned "Fisherman's Paradise" along Spring Creek in Centre County, near Bellefonte, opened its 22nd season on Friday, May 11, at 8:00 A. M. (EST). By the closing on July 14, it is expected that no less than 25,000 anglers will have visited the area that was developed in 1934 as a conservation demonstration project with the accent on stream improvement devices and the use of artificial flies.

Included in the announcement were the rules and regulations under which the project will be managed this year. With the exception of adding rubber and plastic body artificial flies to the list of approved lures, granting permission to clean fish at designated places and extending the privilege of assisting others to land fish, the regulations remain the same as last year.

These regulations will again be set forth on a card given to each fisherman upon registration. They are as follows:

1. Open Season—May 11 to July 14, both dates inclusive. Except Sundays.
2. Open—from 8:00 A. M. to 8:00 P. M. (Eastern Standard Time) or until Klaxon is sounded.
3. All anglers must personally register before fishing and personally check out and return identification button before leaving project. No Sunday fishing.
4. Fish in the possession of angler must be displayed and checked at registration booth when checking into project. Fish not so registered will be considered as having been caught on the project.
5. Anglers must park automobiles before checking in and must check out before removing automobiles from parking lot.
6. Daily Limit—Only one fish may be killed. The Angler must stop fishing after one fish has been killed.
7. Only artificial flies with barbless hooks or regular hooks with the barbs removed may be used. No spinners or swivels permitted.
8. Fishing with, or possession of, any live bait, angle worms, meat, liver or any other bait, is a violation of the rules and regulations.
9. Size Limit—All fish caught from large stream under 10 inches in length and on ladies stream under 7 inches in length must be carefully returned to the water.
10. All anglers holding a Pennsylvania Fishing License will be permitted to fish five days during the season.
11. The dressing or cleaning of fish will be permitted at the designated places, provided the fish have first been properly checked out.
12. Positively No Wading—in the stream for any purpose permitted.
13. Sinkers or lures not exceeding the weight of 2BB Shot are permitted. No casting or spinning outfits permitted.

In Pennsylvania

14. Feeding fish prohibited except on Sunday.
15. All foul hooked fish must be carefully returned to the stream.
16. Violators of the rules and regulations will be subject to a fine of Twenty Dollars (\$20.00), and revocation of fishing privilege on the project for one year.

Pennsylvania Essayists Take National Honors

Four Pennsylvania High School students, all top winners in the state wide conservation essay contest as conducted by the PFSC, took honorable mention in the finals as judged by officials of the National Wildlife Federation. This, as announced by Bob C. Yake, chairman of the PFSC education committee, is the first time in three years that our students hit national recognition.

Barry Fulton of Kantner (Somerset County) and a 12th grade student at the Forbes High school along with Eileen Greyson of 631 Valley View Rd., Ardmore (Montgomery County) and a student at the Notre Dame High school placed as honorable mention in the national contest.

The two Keystone State winners in the national division for junior high students were: Bulah Starr of Three Springs (Huntingdon County), a pupil at the Orbisonia Jr. High school; and Janet Grindall, Box 156, Lemont (Centre County), State College Jr. High.

Assisting Yake for Pennsylvania's efforts in conservation education are: Ray R. Rommelt of South Williamsport and Seth L. Myers of Sharon.

Jr. Conservation Camp Dates For This Summer

Dates for the 1956 Junior Conservation camp as conducted each summer by the PFSC have just been announced, according to Charles W. Stoddart Jr., state chairman of the camp.

Division dates, as listed on the bulletin, are: South-central and Northcentral, June 10 to June 23; Southern and Northeast, June 24 to July 7th; Southwest and Northwest, July 8th to July 21; and Southeast and Central, July 22 to August 4th.

Boys should be freshmen or sophomores in high school during the 1955-56 term and the project camp cost, born by the counties sending the boys, remains the same as previously—\$36.00 per boy.

Deadline for all applications is Monday, June 4th. Included in the papers to be returned should be (1) application blank; (2) parent's consent slip; (3) physician's certificate; and (4) \$36 check or money order.

All correspondence is to be made directly to: Charles W. Stoddart Jr., Room 242, Recreation Hall, Penn State University, University Park, Pa.

Pennsylvania Host to Northeast Wildlife Conference

The Northeast Wildlife Conference got underway Monday morning, May 14, in Pittsburgh's William Penn Hotel. Technical and general sessions covering wildlife fields of research, management, and administration, were held.

Dr. Logan J. Bennett, executive director of the Pennsylvania Game Commission was convention chairman. Concurrent sessions were held by the Eastern Branch of the American Fisheries Society, The Wildlife Society, the Northeast Division of the Conservation Law Enforcement Chiefs Association, and the Northeast Association of Fish, Game, and Conservation Administrators.

Field trips to outstanding conservation demonstration areas in the Keystone State were scheduled on the third day of the meeting for out-of-State guests.

Lady Angler, 87, Again Buys Pa. License

Mrs. Florence Rumberger may be all of 87 years young but she still likes to fish. Mrs. Rumberger recently obtained her 1956 fishing license and is keenly looking forward to taking her share of trout and bass during the oncoming summer season. She enjoys a hike over the hill near her home to get a glimpse of deer. And . . . she likes a good baseball game! Life begins at 80?

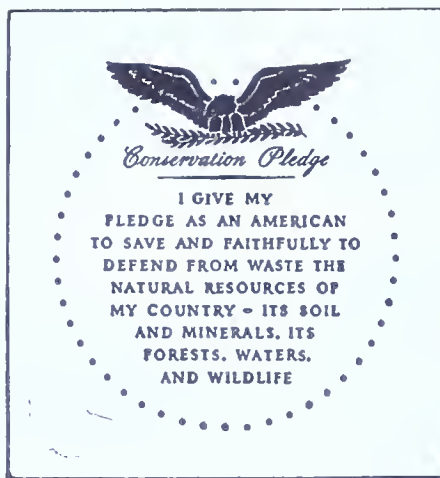
New Pennsylvania Tree Farms

In August, during the fourth annual Woodsmen's Carnival at Cherry Springs State Park in Potter County, 13 new Pennsylvania Tree Farms were certified. Large metal Tree Farm signs, wooden name signs and Tree Farm certificates were presented to these landowners whose woodlands have been placed on a well managed program of cutting and protection from fire.

This recognition has come as a result of each landowner having done actual cutting under approved forest practice. To date a total of 308 Tree Farms, covering 218,416 acres, have been certified in Penna. under the American Tree Farm System.

Nationally, this program now covers 7,152 Tree Farms in 38 states with a total acreage of over 37,000,000 acres. Remember that each one of these Tree Farms, large or small, is privately owned, taxpaying land dedicated to continuous crops of wood products.

Forest landowners in Pennsylvania who are interested in the program should write for additional information to the Pennsylvania Tree Farm Committee, 321 Dauphin Building, Harrisburg, Pennsylvania.



Postage Stamps to Feature American Wildlife

The wild turkey will become the first American game animal to grace the United States postage stamp, according to the Wildlife Management Institute. A three-cent stamp depicting a wild turkey in flight will be released May 5 at Fond du Lac, Wisconsin, at the convention of the Wisconsin Federation of Stamp Clubs. King salmon and pronghorn antelope will be featured on two other three-cent stamps that will be released later this year. All three designs are based on drawings by Robert W. Hines, widely known chief artist for the U. S. Fish and Wildlife Service.

One sure way to guarantee that the Post Office Department will continue to use wildlife as the subjects for future stamps is for all conservation-minded persons—wildlife workers, sportsmen, nature students, garden club members, and the like—to make heavy use of these pioneer issues for their mailings.

Nash Conservation Awards Program Slated for 1956

American Motors has announced that the Nash Conservation Awards will be continued for the third year with a citation and a \$500 cash award being given to each of ten men selected for outstanding contributions to their work with fish, game, water, soil, or forests, according to the Wildlife Management Institute. All employees of non-profit conservation organizations are eligible for these awards. An equal number of awards without a cash grant will go to citizens who helped to conserve the outdoors as an act of good citizenship. Information may be obtained from the Nash Conservation Awards Committee, Room 400, 745 Fifth Avenue, New York 22, New York. Award nominations should be submitted prior to August 15th.

A New Angle on Lakes Management

A report by G. E. Burdick, H. F. Dean, and E. F. Harris, in the current issue of the *NEW YORK FISH AND GAME JOURNAL*, suggests a new management tool. They found that yellow perch are much more susceptible to the effects of rotenone than most other

Conservation

fishes except brown trout. This bears out general field observations in New York and elsewhere that yellow perch populations are easily killed off by low concentrations of rotenone while some other species seem little affected.

A similar phenomenon was discovered over two years ago by biologists in Texas with respect to gizzard shad. Several states have since used this information to eliminate excess small shad and bring about immediate and decided improvement in fishing success.

Implications of the New York research are similar. Selective control of yellow perch with rotenone now seems possible where this may prove to be desirable. It might be worth trying where too many yellow perch are a problem and where it may be undesirable to kill all the fish except as a last resort.

More on Traveling Fish

A University of Wisconsin scientist has found evidence to support the theory that fish—like birds, bees, and ants—use the sun as a navigational aid.

The scientist, Arthur D. Hasler, reported today on a series of experiments he conducted 1st year in the laboratory of Karl von Frisch, famed bee expert, at the Zoologisches Institute in Munich.

Von Frisch is the scientist who found that bees use polarity of sunlight as an aid in navigating to flowerbeds. Another German scientist, Gustav Kramer, found that birds also use the sun for navigation. Navigating army ants, too, take direction from the sunlight.

During his year's work in Germany—supported by a Fulbright fellowship—Hasler found evidence that fish can employ the sun to direct their travels.

Hasler revealed his finding to scientists attending a symposium on marine biology being held at the Scripps Institute of Oceanography.

Hasler is the scientist who conducted experiments showing that salmon and other fish have an extremely sensitive sense of smell, clearing up part of the mystery of how salmon find their way home from the sea.

Salmon spawn in the same mountain river where they are born, traveling hundreds of miles from the sea, making many correct decisions at forks in the stream.

Hasler and a student, Warren Wisby, showed that fish can smell the difference between water of different streams, and that salmon with plugged noses always get lost on their spawning migrations.

This discovery—made in 1950—didn't solve the whole problem, however. During four years at sea, salmon swim hundreds, even thousands, of miles from the spot where home streams enter the ocean. It seems incredible that they could smell their way home from those distances, even though they can detect home stream water that has been diluted hundreds of times.

Across the Nation

This fact led Hasler to his further experiments in von Frisch's laboratory. He placed minnows with the scientific name *Phoxinus laevis*—a species von Frisch has conducted many experiments with—in round tanks. An overhead light bulb placed at a certain angle served as an artificial sun. Then Hasler trained minnows to expect food in one of two food dishes at the north and south ends of the circular aquarium. Both food dishes looked alike and the fish had to push a cover aside to get a bite of food. Both dishes smelled of horsemeat, although only one contained any.

The first thing Hasler found was that the minnows were very adept at using scratches on the wall, water pipes, and other landmarks to guide them to the right food dish. But when these landmarks were continually moved or taken away, the trained fish began to depend on the angle of the artificial sun to help them pick the right dish on the first try.

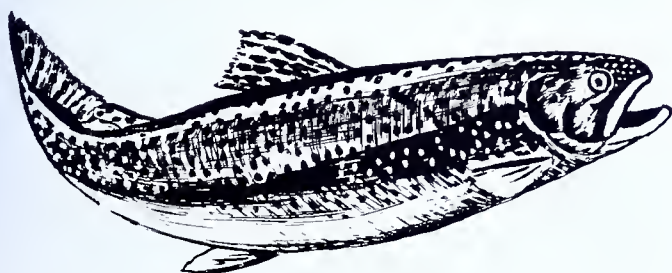
It took 100 training tests before the first fish caught on to the fact that the only thing he could depend on was the position of the "sun."

These experiments provide sufficient evidence to warrant further research, Hasler believes. "It cannot be denied that the fish learn to recognize an artificial sun. This proves that the ability exists, and just how it may be used in nature must still be determined," he says.

"A fish in clear water and near the surface might readily use the sun. The deeper one goes, the more the light seems to come from directly overhead, but we know the sun's direction can still be detected at least 40 meters below the surface in the Atlantic Ocean," he adds.

It remains to be proved that fish have an accurate, innate sense of time, Hasler adds. Not only a compass but an internal clock is needed for sun navigation. Birds, bees, and ants are known to possess a very precise time sense, but so far no one has shown that fish possess one. There is no reason to believe that they don't, however.

Hasler and Wisby's work with salmon may some day be used in practical efforts to decoy spawning salmon from dammed rivers to ones where they can successfully make their spawning runs. Experiments on this application of basic facts of migration are now contemplated.



Stocking and Management of Farm Ponds

One of the most frequent questions asked of Ohio's Fish Management Section is "how to properly stock and manage fish farm ponds." For the past few years these requests have increased to the point where the Division of Wildlife felt a specific study should be made in order to find the facts relating to proper stocking and management.

Four years ago, the U. S. Fish and Wildlife Service completed a number of one-acre ponds at the Hebron Fish Farm. Eighteen of these ponds were made available to the Division of Wildlife for study and experimentation. The ponds are being used for the establishment of correct stocking procedures, with certain numbers, sizes, species, various combinations and at certain times of the year.

Specific work being carried on under this project includes experiments with stocking rates of bass and bluegills, times of stocking and the ability of some other predator type game fish to correct ponds which may get out of balance.

While the data obtained thus far has no doubt been interesting and informative to the technical fisheries worker, the conclusions reached have been of little value to the farm pond owner as no fishing has been permitted up to this time in these experimental ponds. All fish removed have been by artificial means, using seines, nets, etc.

With the initial part of the farm pond study completed, the Division of Wildlife will carry on the second phase of the program beginning about May 1, at which time the public will be permitted to fish in three five-acre ponds, which have been stocked with bass and bluegills.

These three ponds are located at the Hebron Fish Farm and while no boats will be permitted, the ponds are so constructed that most of the water can be fished from the bank. Liberalized fishing will be in effect, which means no length limit, no daily limit and no bag limit.

Fish management personnel are hoping the public will take advantage of this opportunity to enjoy some fine fishing and in addition help provide important information for our future farm pond program.

Ohio's northern pike stocking program is still in the experimental stage and during 1956, in addition to corrective stocking in a number of inland lakes, adult northern pike will be stocked in a two acre farm pond in Van Wert County in an attempt to determine if this predator game fish can keep the bluegill numbers in check.

DON'T BE A LITTERBUG!!

Meet Your Warden



Harold Corbin—Regional Supervisor

521 13th Street, Huntingdon, Pennsylvania

Mr. Corbin was born on January 18, 1911, on a farm in Juniata Township, Huntingdon County. He attended public school in that township and graduated from Huntingdon High School in 1928.

Previous to joining the warden force he spent 16 years at the printing trade with the Western Tablet and Stationary Company in Huntingdon, during which time he was active in conservation work serving in a number of offices in sportsmen's associations.

On April 1, 1947, Mr. Corbin was appointed fish warden for Huntingdon and Mifflin counties and served in that capacity till June 1, 1951, at which time he was appointed a division supervisor for the South Central Division.

The South Central Division is composed of the following counties: Bedford, Huntingdon, Mifflin, Juniata, Perry, Fulton, Franklin, Cumberland, Adams west of Route 15 and three dams in Centre County. Within this division there are 110 approved trout streams totaling 664½ miles and 16 lakes of 461 acres stocked with takeable trout. Warm water fishing is provided on 56 streams totaling 972½ miles and eight dams or lakes of 1,393 acres.

C. V. Long

East Waterford, Pennsylvania.

Mr. Long was born on June 3, 1898 on a farm near East Waterford, Juniata County and moved to East Waterford in 1926.

He attended public school in Lack Township and after two summer terms at the Academia Academy in that county he began a teaching career in 1917 which ended in 1929 with assignments at a number of schools

in Lick, Lack and Tuscarora Townships. During his teaching years he furthered his education by attending Shippensburg State Normal School for three summer terms and Juniata College for two summer terms.

In 1920 Mr. Long gave up teaching and worked as a Special Fish Warden in the summer of 1930-31 as a Deputy Game Protector in the winter. On April 1, 1932 he became a Fish warden and has since served in that capacity.



C. V. Long

This officer is assigned to Juniata and Perry Counties and services all the waters therein with exceptions of Blacklog Creek which runs into Huntingdon County and Fishing Creek and the west shore of the Susquehanna River below the mouth of Sherman's Creek in Perry County. In addition to these waters he also has charge of Tuscarora Creek in Huntingdon County and East Licking Creek in Mifflin County.

This district provides 144 miles of trout fishing on 25 streams. Warm water fishing is found on 158 miles of 9 streams. There is only one lake of 9½ acres stocked with carp in this district.

Richard Owens

83 Cedar Street, Mt. Union, Pennsylvania.

Mr. Owens was born on March 31, 1919 at Olyphant, Lackawanna County. He attended elementary school and graduated from the Olyphant High School in 1937.

He is active in Veteran and Fraternal Organizations and is a Ruling Elder of the Presbyterian Church.

Previous to joining the warden force on April 5, 1954, he worked as an assistant coal inspector.

This officer is assigned to Huntingdon and Mifflin Counties and services all waters in those counties with



Richard Owens

the exception of Tuscarora Creek, East Licking Creek which flow into Juniata County and Nine Mile Creek flowing into Fulton County. He also has jurisdiction over Blacklog Creek in Juniata County and three dams in Centre County.

This district provides 164 miles of trout fishing on 27 streams and 6 dams of 53 acres. Warm water fishing is found on 294 miles on 11 streams and one dam of 576 acres.



Bryce Carnell

St. Thomas, Pennsylvania.

Mr. Carnell was born on July 8, 1921 near Warfordsburg, Fulton County. Previous to joining the warden force on May 1, 1949 he served as an Acting Game Protector in Fulton County.

This officer is assigned to Franklin and Fulton Counties and serves all water therein. In addition to these waters he also services those waters in Adams County that flow into Franklin County and one stream in Huntingdon County that flows into Fulton County.

This district furnishes 166½ miles of trout fishing on 31 streams and 89 acres on 3 dams stocked with trout. Warm water fishing is found on 188 miles on 14 streams and 2 lakes of 66 acres.



William E. McIlroy

203 West Barclay Street, Bedford, Pennsylvania

Mr. McIlroy was born on January 19, 1914 at Juniata, Blair County. He attended elementary school and graduated from the Robert P. Smith Vocational High School in Bedford County. He was employed by the Game Commission as a deputy game protector before joining the warden force on March 12, 1941.

This officer is assigned to Bedford County and serves all waters in that county and a short section of Sideling Hill Creek in Fulton County. Fishing waters in this district total 105 miles of 17 streams and 3 lakes of 276 acres approved for trout, and 183½ miles on 13 streams and 2 lakes of 730 acres for warm water fish.



Barry A. Gracey

R. D. 5, Carlisle, Pennsylvania.

Mr. Gracey was born on January 29, 1931 in Mt. Union, Pennsylvania. He attended the elementary school there and graduated from the Mt. Union High School and later attended one semester at the California State Teachers College.

At the present time he services all waters in Cumberland County and those waters west of route 15 in Adams County with the exception of those which flow into Franklin County. He is also assigned to that portion of the west shore of the Susquehanna River in Perry County from the mouth of Shermans Creek to the Cumberland County line and Fishing Creek in Perry County.

This district serves 10 approved trout streams with 85 miles of fishing waters and four dams with 43 acres which are stocked with trout. Warm water streams in this district total nine streams with 149 miles of fishing water and two lakes of 11½ acres.



AWARDS TO CONSERVATIONISTS was stellar attraction of recent banquet, the Northwest Division, Penna. Federation of Sportsmen's Clubs at New Castle. Those honored for outstanding service to conservation were (l-r): Congressman Leon H. Gavin, Oil City; Dr. Robert Dow, division president who made the awards; Ray Armstrong, Federation president; Richard J. Costley, U.S. Forest Service; Maurice K. Goddard, Secretary, Penna. Dept. of Forests & Waters; Fish Commissioner Wallace Dean and Game Commissioner H. L. Buchanan.



FEDERATION BOOTH at Sportsmen's Show held recently in Harrisburg. Officials at the booth are left to right: Joe Barkley, Ray Armstrong, Bob Yake, Ellen Dietrich and Mrs. Barkley.



Veteran Warden Dies

Keith Harter Passes On

The Pennsylvania Angler and all his many friends pay tribute to the memory of Senior Fish Warden Keith Harter who passed away March 22, 1956 at his home in Clarks Summit, Pa.

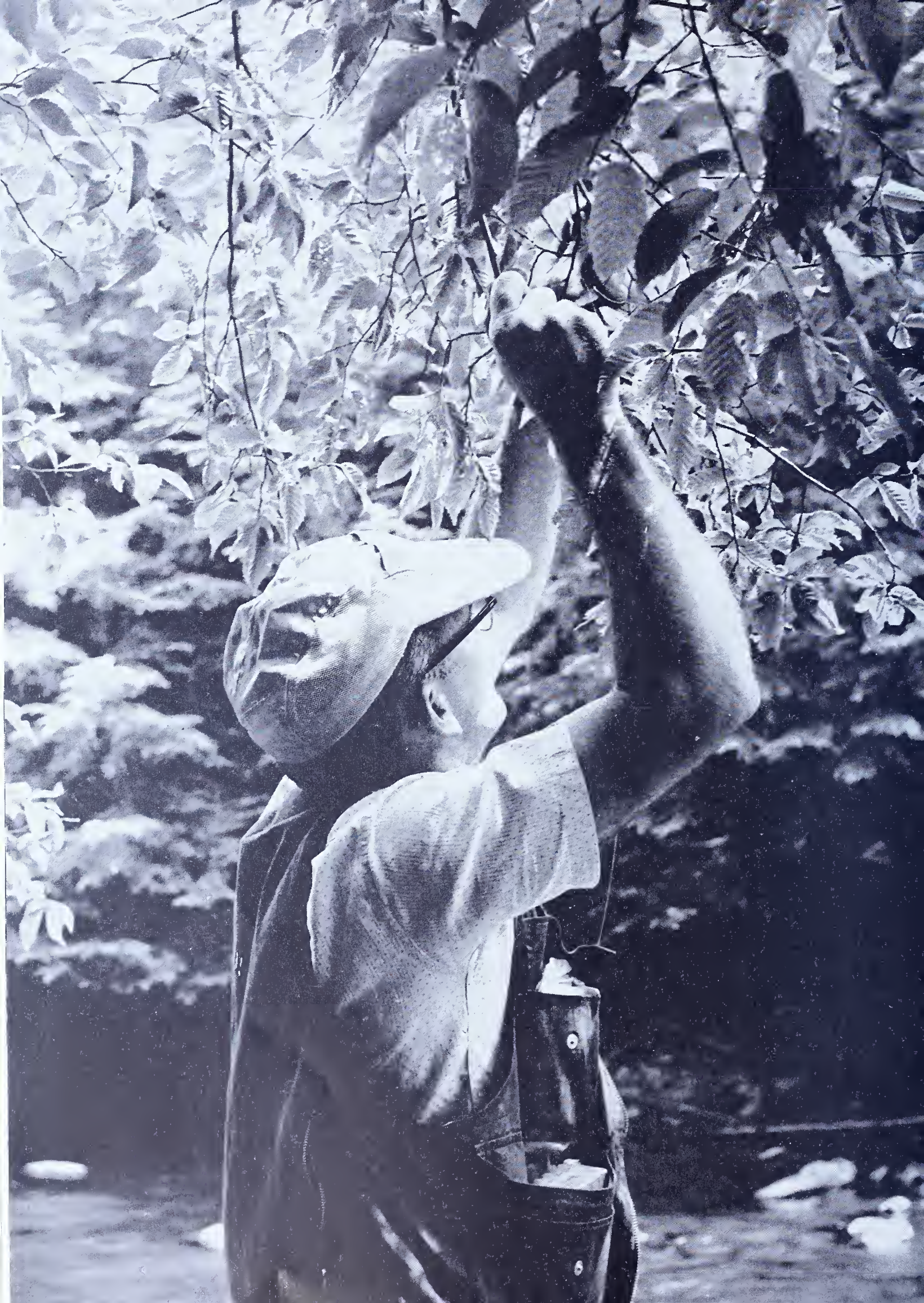
Mr. Harter was appointed Fish Warden for Lackawanna County on May 1, 1937. He had less than a year to go to be retired. Keith, as he was known to all Fish Commission personnel, was the quiet type and did his work without complaint. His generosity toward underprivileged children was little known by the general public but was revered by his superiors. A good man has crossed the Great Divide.



Here's Another Farm Going By—!
—Another Stream Out of Bounds—

You can help keep streams where they belong by regularly reading the excellent, practical, conservation articles in the PENNSYLVANIA ANGLER.





PENNSYLVANIA

ANGLER

PENNSYLVANIA FISH COMMISSION



P38131

JUNE 1956



Sick Waters and Sick Watersheds

Pennsylvania has some fine trout streams. Anyone who has pursued trout in the better waters of the Commonwealth knows about them and, in season, hankers to seek them out for fishing purposes.

But the chances are that, en route to the fine streams, he speeds right past, or crosses on highway bridges, other streams that once were just as good but now are but pale shadows of their former splendor.

We're not talking this time about streams that have been sickened by acid pollution from coal mines, or by other industrial pollution or municipal wastes. The streams now under scrutiny are those that have been laid low by poor farming and logging practices.

The sick streams can be named, but that doesn't seem necessary. Almost any traveler in Pennsylvania trout country can spot these ailing waters at a glance, once the symptoms are known and recognized.

The symptoms aren't difficult to spot. Is the stream wide and shallow, a succession of long reaches exposed throughout the summer to the sun's heat? Have the trees and other vegetation along the banks been cleared away so there are few if any stretches kept cool by shade? Is the stream bed devoid of boulders around which water can boil and dig out cool, food-filled pools in which trout can live and grow big and fat? Are the still reaches silted with muddy soil that covers the sand and gravel and smothers out the aquatic insects on which trout so largely live?

These are all symptoms of a sick stream. Chances are that such streams are nearly dry by midsummer, with water temperatures far above those that trout will tolerate. Chances also are that these streams rise suddenly with the snow melt and spring rains and cause destructive floods to valley farms and the improvements that man has, not always wisely,

built in the lowlands. Such streams often are muddy after every summer shower.

But don't look to the stream itself if you are seeking the causes of this damage. Look instead to the farms themselves in the stream valleys and along the slopes of the bordering hills. Look to the condition of the woodlands. And look to the raw earth cuts that still far too often are found alongside paved and unpaved country roads. These are principal reasons why so many of our great trout streams are dead or dying.

Something can be done about them. Something must be done about them if the people of Pennsylvania are to enjoy good trout fishing in coming years. But the work to be done, if it is to be permanently effective, should start on the farmlands and the forest slopes. It is called "good land management," and good land management is essential if good stream management is to be carried out. When money to do so is available, the Fish Commission can carry out stream improvement works that will create anew the right kind of habitat for trout, but these works will be short lived and ineffectual over the long pull unless good land management goes hand in hand with them. The quality of the management of the land above the water governs the quality of the water.

People who like fishing—and the numbers of Pennsylvanians who like to fish are increasing constantly—can do something about encouraging good land management, but they can't do it alone. Nor can the Fish Commission do it alone. The goal can be achieved only by the separate but harmonized efforts of every landowner. And we'd better be quick about getting along with the job. It's pretty late in the day.



Wm. Voigt, Jr.

COMMONWEALTH OF PENNSYLVANIA

HON. GEORGE M. LEADER
GOVERNOR

★

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Superintendent of Hatcheries

W. W. BRITTON
Chief Enforcement Officer

★

REGIONAL WARDEN SUPERVISORS

Northwest Region

CARLYLE S. SHELDON
Conneautville, Pa.; Phone 3033

Southwest Region

MINTER C. JONES
361 W. Lincoln St., Somerset, Pa.;
Phone 5324

North Central Region

C. W. SHEARER
200 Agnew St., Mill Hall, Pa.;
Phone 375

South Central Region

HAROLD CORBIN
521 13th St., Huntingdon, Pa.; Phone 1202

Northeast Region

RALPH O. SINGER
456 Main St., Honesdale, Pa.;
Phone 1485

Southeast Region

JOHN S. OGDEN
York, Pa.; Phone 47-3028

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is Liberalized Fishing

By DR. CHARLES A. DAMBACH

Director, Natural Resources Institute, Ohio State University

ONLY one word is needed to answer the question which titles this article. That word as voiced by the representatives of nearly a million "Buckeye" fishermen is an emphatic "Yes!" Locally there are a few No's sincerely expressed, but lost in the overwhelming favor with which liberalized fishing is accorded as it enters its twelfth season. This fine public response is more noteworthy in the author's judgment than the demonstrated capacity of fish populations to keep ahead of the anglers. Our technicians and research workers had volumes of data to guide them in predicting what would

happen to fish with the removal of restrictions but little information upon which to judge public reaction. In this respect, knowledge of Ohio's experience with liberalized fishing restrictions may be useful to other states and is gladly shared with them.

The term "liberalized fishing" as practiced in Ohio means that anyone fishing legally can take all the fish he catches at any time of the year without regard to size or number. Ohio restricts only the method by which fish may be taken. However, methods which, by most standards, would be considered liberal are permitted,



Ohio's liberalized fishing program is based on many years of scientific investigation. In this picture, a field crew is shown sampling the fish population in a stream by use of an electric shocking device.

success in hio?



Dr. Charles A. Dambach

including gigging of suckers, spearing and bow-and arrow shooting of carp and other rough fishes.

Liberalized fishing orginated in Ohio, at least in part, because the State has so little fishing water. This has necessitated careful study and intensive management for maximum utilization. Any one of the "dry" western states has more inland fishing waters available on a per capita basis than does Ohio. Ohio, of course, does enjoy considerable frontage on Lake Erie and, for those who can afford the size of craft needed to get out in the Lake, a considerable area of good fishing in the Lake territory. When the state was first settled, less than 7,000 acres of impounded water existed. Since that time millions of dollars have been expended in constructing more than 500 lakes of various sizes and over 5,000 ponds, quarries, gravel pits and canals in which public fishing is permitted. Nearly 90,000 acres of water are now available to the public, or about thirteen times the original area. This is a significant accomplishment, but one which must be regarded with the practical knowledge that about a million persons seek fish in these waters. In other terms, there are 11 fishermen for every acre of impounded water and upwards of 100 for every mile of fishable streams. Under these circumstances, there has never been room for guesswork in Ohio fish management.

Ohio has a long history of enforcement of trial-and-error fishing restrictions. These restrictions were started in 1812, only nine years after Ohio was admitted to the Union. This initial effort was designed primarily to insure that the free movement of fishes would not be

(Please turn page)

Born—Cuyahoga County, December 31, 1911.
Address—7085 Linworth Rd., Worthington, Ohio.
Age—40.
Married—1937—Three children.
Religion—Protestant.
Education—Graduated, Burton High School, Burton, Ohio, 1932. Graduated, O.S.U. College of Agriculture, 1936. Master Degree, 1941, Agriculture and Conservation PHD, 1945.
Experience and Qualifications—Pottery worker, Postal Telegraph employee, Foundry worker, Farmer, Business Office employee, Forester, Biologist, U. S. Soil Conservation Service, 8 years, Staff Member O.S.U., 8 years, Director of Wildlife Research and Conservation Curriculum, Former Director of Conservation Laboratory, Director 4-H Conservation Camp, 4-H Forestry Club Leader.
Present Position—Appointed Chief of the Ohio Division of Wildlife, June 16, 1950.—Since October 1, 1955—Director, Natural Resources Institute, Ohio State University.
Memberships—Fellow—Ohio Academy of Science; Past President, Columbus Chapter, Friends of the Land; Past President, Buckeye Chapter, Izaak Walton League; 2d Vice President, Ohio Chapter, Izaak Walton League at present; a member of the Board of Directors; Life member of the Ohio Forestry Association; Past member of Perry Twp. Board of Education, Soil Conservation Society of America, American Ornithologists Union, Wilson Ornithological Club, American Association for Advancement of Science, Ohio Wildlife Management Association, Ohio Game Protectors Association, League of Ohio Sportsmen, Ohio Conservation Congress, Outdoor Writers of Ohio, Gamma Sigma Delta, Phi Eta Sigma, Sigma Psi.
Writings—Ecology of Crop Field Borders, Author of widely used textbook chapter on Conservation, many scientific papers and popular articles on Conservation.

NATURALLY our readers first question about this article is—"Would it work in Pennsylvania?" A cautious answer might be—"Yes, in waters similar to those where it has proven successful in Ohio."

Pennsylvania is largely a mountain state; at the high elevations the growing season is shorter and the soil is usually poorer, both of which mean lower fish production. Most of our fishing lakes—natural and artificial—are in the mountains and many of them are trout waters notoriously low in productivity. Biologists generally agree that most trout waters are overfished rather than underfished and that higher size limits and lower creel limits are needed for better production of the native stock.

Ohio's pioneer program has demonstrated that research (although Dr. Damhach doesn't call it that) pays off in producing more fishing. Other states such as Illinois, Wisconsin and Michigan have active field research underway to find out how far it is safe to liberalize fishing. The results have pleased the angler there also.

Pennsylvania needs more fact finding and sound experiments to learn if restrictions on warm water streams and lakes here can be safely relaxed. It would seem that in the relatively near future, we should give it a trial.

Albert S. Hazzard

Assistant Executive Director

PENNSYLVANIA FISH COMMISSION

impaired by dams or nets. In 1857 legislation was enacted limiting the manner in which fish could be taken. Almost 90 years of constantly changing and increasingly complex regulations followed. These regulations included creel limits, size, limits, season limits, limits to the methods by which fish could be taken, and sanctuaries where no fish could be taken.

Like other states, Ohio also tried extensive stocking of artificially raised fishes. Game, pan and forage fishes by the millions were reared in more than a dozen hatcheries and stocked in streams and lakes as fry, fingerlings and adult breeders. Crayfishes, frogs and other natural

fish foods were artificially reared and planted in selected waters. Vegetation was planted in certain waters and a variety of devices to aid spawning and rearing young fish were erected in lakes. Gravel was placed in lakes to provide nesting sites for bass, and low dams were built in streams to create deep, quiet pools.

Fortunately, fisheries workers have made and reported their observations on these efforts and their influence on the fisherman's catch. These records go back to the work of the Ohio Fish Commission, which was created in 1873 to "examine the various rivers, lakes, ponds and streams of Ohio with a view of ascertaining whether they can be rendered more productive of fish and what measures are desirable to effect this objective." The Commission initiated a program of lake and stream surveys which has since continued without interruption. It is this long record of account keeping which provided the fund of facts upon which Ohio's liberalized fishing program is based.

In substance these facts consistently demonstrated that none of the restrictions or combinations of restrictions placed upon angling in Ohio waters altered the number, size or catchability of fish. They clearly demonstrated that environmental factors, such as purity and availability of nutrients in the water, were important in determining size and quality of the fish population.

Ohio fisheries scientists were not alone in their awareness to these facts. Findings in other states substantiated the Ohio observations. Such

Test netting in liberalized waters has been conducted regularly. These tests show no measurable change in fish populations attributable to liberalized fishing.



facts, however, whether in file drawers or scientific publications, do not produce results until the public is aware of them and understands their significance.

The job of interpreting these facts was carried out in a well-conceived and executed educational program. The key characters in this program were Dr. T. H. Langlois, now Research Professor in the Department of Zoology of the Ohio State University, who at that time was Chief of the former Division of Conservation's Bureau of Fisheries; E. L. Wickliff, now head of the Fish Management section of the Ohio Division of Wildlife; and Lee S. Roach, pre-

sently assistant chief of the Division of Wildlife, and in varying degrees, the entire fisheries staff. These men made known the results of their investigations through field demonstrations, exhibits, the press, radio, personal appearances, popular and technical articles, motion pictures, public hearings, and stream and lakeside discussions with fishermen. One of the most effective methods of "telling the story to the public" has been through a test-netting program. Dr. Langlois described this program in his presidential address to the American Fisheries Society in 1940 in these words:

Fishermen cooperate in keeping tab on the results of liberalized fishing and freely tell the field staff what they like or dislike about the program.



The general public and fishermen in particular have been encouraged to watch test netting operations and management practices in Ohio lakes. Here a group of interested persons watches fish technicians conducting a rough fish removal project from an inland lake.



The proof of the pudding is in the eating. Fishermen from every walk of life enjoy the worry-free hours liberalized fishing provides. The shadow of the approaching enforcement officer brings no fear that some of the catch may be too small, but rather a welcome visit from one who can share in the pleasure of the catch or suggest a better place to try one's luck.

"In the Ohio lakes and ponds we have concluded that the rate of turnover in stocks is too slow—that our waters are underfished. In controlled areas we have fished intensively, removing the game fishes with nets, and although fearful at first of killing the goose that laid the golden egg, we have each year removed more fish than before, and the average size continues to be very satisfactory.

Our netting crews have been used during the past three summers in State-wide surveys which have been a very great influence on public opinion. These crews operate on schedules which enable them to spend from 3 to 5 days at each of the larger water areas of the State, and to reach each place at approximately the same date each year. Fyke nets are set upon arrival, and anglers and operators of boat liveries and resorts are invited or even urged to be present when the nets are lifted. Complete data are taken on all fish caught, and the fish that have been either tagged or fin-clipped. Although the samples of fish so obtained reflect the selective effects of the fishing gear used, and obviously do not represent more than small sections of the fish population of the entire area, they do provide a comparison of the same area from year to year and of one area with another.

Almost without exception, when our nets are lifted, the onlookers are surprised at the average size and quantity of fish present in their lake, pond or stream, and begin promptly to boast about the good fishing."

Another effective educational measure was the opening of a few experimental areas to liberalized fishing and widely reporting the results. In 1945, an 80-acre lake in southern Ohio (Lake Alma) was opened to angling without any restrictions. During 1946, 1947 and 1948 the number of open lakes was raised to nine. In 1949, the number was increased to 26, and in 1950 to approximately 100. Seven streams were included in the experimental liberalization program. A careful check was kept on all lakes and streams of fishing pressure, angling success and on the fish population. These records were reported in a series of articles initiated by Lee Roach in 1947 in the *Ohio Conservation Bulletin* titled "In Fishing Circles." Nearly fifty articles on this subject appeared in this Bulletin in the next few years.

The natural consequences of the educational effort was an informed public ready to request action in keeping with established facts. At county, district and state fish hearings, sportsmen suggested complete liberalization of the State's fishing waters. In 1952, after months of study, the Ohio Wildlife Council opened all

Ohio waters to liberalized fishing. This was followed in 1953 by liberalizing the methods by which rough fishes could be taken, to include virtually anything short of shooting, poisoning, electric shocking or dynamiting.

There were some dire predictions that fishing in Ohio would soon come to an end, and it was noted that someone as early as 1873 said that "unless protection to fishes during spawning was afforded there were substantial reasons for believing the total extinction of fish life in Ohio is drawing near." This was a sincerely expressed concern, and probably was a wise one in the light of the knowledge about Ohio fishes then available.

We know now that under our relatively high levels of fishing pressure, the fishes adapted to our waters reproduce abundantly—often too abundantly—without protection during the spawning season. We know, too, that if anything should go wrong with our fish populations, our technicians will be quick to detect it and the Wildlife Council quick to take remedial action. We also realize that many of our fishing waters are artificially created and subject to intensive management. They can, if necessary, be lowered, drained, fertilized, selectively stocked, or poisoned, in much the

manner that a farmer manages his crop land.

No miracles have been wrought with liberalized fishing in Ohio. There is no evidence that the fish are any larger or that the angler catches more per hour of effort for a comparable period. Neither is there the slightest evidence that liberalized fishing on a statewide basis has hurt fish population.

There is abundant proof, however, that it has increased fishing opportunity many-fold for many people—that it has created millions of additional worry-free hours of recreational fishing to many people weary of the restrictions so common to our complex society.

That the fishing public likes this program is evident from their consistent demand that it be continued. Like fishermen in other states, Ohioans are conservative; they want no chances taken with their rightful heritage. They are convinced that for their conditions, this program is sound and that their heritage is in no way endangered. They have no desire to tell other states what to do about liberalized fishing, but do invite them to see how well it has worked in the Buckeye State.

The Brook*

I come from haunts of coot and hern,
 Alas, a fatal sally!
 For through what heaps of junk I churn
 As I go down the valley!
 By dirty dumps I hurry down
 Where refuse lies in ridges
 And folks bring garbage out from town
 To heave it off the bridges.
 'Mid wrecks of motor cars I flow,
 The bus, the truck, the flivver.
 Oh, men may come and men may go,
 But I go on forever!
 I slip, I slide, I gloom, I glance
 O'er pipes and rods and wires;
 I make the golden sunbeams dance
 Among the worn-out tires.
 I chatter over pots and pans
 In little sharps and trebles;
 I bubble out among the cans
 That quite conceal the pebbles.
 Till last polluted do I flow
 To the polluted river;
 Ah, saboteur! You come and go,
 But I go on forever!

—Tom Pease

* Modern Version from Alfred, Lord Tennyson

Counting Calories at the trout hatchery

By **ARTHUR D. BRADFORD**

Pathologist, Penna. Fish Commission

IN THIS era of hopefully watching bath room scales, counting calories, battling the feed bag and slimming down to a body beautiful on a beach you'd hardly think such things would trickle down to bedevil a trout. Yet it's true . . . trout have to watch their figures else they get fat and lazy with a big mid-section and little desire to do anything but eat and sleep. So they must go on a diet. It's obvious they cannot push themselves away from the table like we try to do, lift weights, puff away at a rowing machine or take a batch of pills.

And the trout culturist cannot merely "throw the feed to 'em and watch 'em grow" but must dole out carefully balanced rations. Fish require the same basic food constituents as do farm animals and humans. Among these requirements are proteins, fats, carbohydrates, minerals, and vitamins. Of course, the diet must also be tasty as far as the fish are concerned because unpalatable foods will not be eaten readily. This is true even if the fish are very hungry and the diet is perfectly balanced.

Most of us cannot afford or would not want "all meat and no potatoes." Likewise the fish culturist must choose foods that are cheap, plentiful, and well balanced. They should, of course, promote good growth but not at the expense of the health and vigor of the fish. Fish food costs the Pennsylvania Fish Commission over a quarter of a million dollars annually, no small item.

Good trout diets may vary greatly from one part of the country to another depending on the availability of ingredients. Coastal states have used large quantities of cheap marine fish which would be very costly further inland. Dry feeds including meat and grain meals are

widely used in some hatcheries. Pellets, common as livestock and domestic rabbit foods are also finding their way into fish hatcheries with outstanding success in most cases.

At present it is necessary to feed with each diet a certain percentage of fresh meat such as the livers, hearts or spleens of cattle, sheep and horses. This part of the hatchery ration is usually quite expensive and often in limited supply due to competition from other users such as the dog and cat food producers. Fresh meat products are necessary to supply needed vitamins for without their use fish may show a wide variety of disease symptoms. Such symptoms can include blindness, anemia, dizziness, changes in the appearance of the skin and even death. No satisfactory substitute for this meat fraction of trout diets has yet been developed. There is promise, however, that this feat will be accomplished in the not too distant future. The Cortland Hatchery in New York State which is operated under a cooperative agreement between the New York State Conservation Department, The United States Fish and Wildlife Service and Cornell University has been concerned with research on trout foods for many years and much of the progress made in trout nutrition has had its origin at this experimental hatchery. The results of these experiments are published periodically and are available to all states.

Studies in nutrition are being carried out at the Fish Commission's Benner Spring Research Station to evaluate the food components of the present diet and to investigate new diet possi-



Feeding ground liver to lake trout fingerlings. Fish of this size grow better when fed several times daily.



Experimental diets must be carefully weighed in order to correctly evaluate their fish raising potential. Pellets are being weighed out in this case at the Benner Spring Research Station.

bilities as well as those used with success in other parts of the country. As pointed out previously a diet which works well in one area may be too costly for a state in a different location. The fish nutritionist is concerned with a figure called the conversion factor of a diet. This factor is simply the number of pounds of food required to produce a pound of trout. For example, a diet of meat and marine fish takes about 5 pounds of food to produce a pound of trout. The conversion factor is 5 in this case. Dry feeds and pellets which are more concentrated and contain much less water than meat may give conversion factors of 2 or 3.

Last year deer meat was the surprise of the experimental trout diets under study at Benner Spring. The 100% venison literally had the "jump" on all the foods tested. The meat used was not deer livers or hearts but the muscle tissue from road-killed animals. This diet gave a conversion factor of about 4 which is some-



Each experimental lot of trout is weighed at frequent intervals to check on rate of growth and food conversion.



The response of trout to various types of feeds is important in determining their value. The fish in the above photo at Benner Spring show no lack of enthusiasm for the diet being used.

what better than the regular hatchery ration. Sportsmen's clubs could take advantage of this information for feeding trout in nursery ponds. Road-killed deer are very plentiful in some areas and permission for use as trout food of animals totally unfit for human consumption could probably be obtained from District Game Protectors.

Fish food pellets previously mentioned are being given a thorough going over this year at Benner Spring to find out if they are worth their salt as far as Pennsylvania is concerned. The use of pellets would cut down refrigeration problems, grinding and handling. In addition special drugs for disease control and special food supplements are easily incorporated in pellets.

Welfare states are often characterized by "cradle to grave" security. Modern methods of raising fish including application of breeding principles disease and diet controls insure a sort of "egg to frying pan" security for trout.



Feeding pellets at Benner Spring. The trout here are not feeding at the surface. Fish often feed slowly on pellets when first introduced to them.

Fishermen: a thousandfold in 75 years

Fishing: an art or a source of food

(Two thought provoking aspects of America's number one sport treated in a letter to Lou Klewer, president of the Outdoor Writers Association of America by Clifford R. Davis, writer, of Sandwich, Mass. The observations are well worth the pause and consideration of every angler.—Editor)

Dear Lew:

I dug up some statistics the other day which started me on a new line of thought concerning the future of angling in the United States. It is a rather broad point-of-view and takes considerable imagination to make it look practical.

The statistics are these:

From "The American Angler," Vol. 1, No. 1, 1881—

"The American Angler will reach thirty-seven hundred and twelve fishermen, that being the number of names we have gathered during our dozen years of experience in sporting journalism; but if we approximate the aggregate of anglers in the United States by the scores of new names that are being sent to us by each of our correspondents we should not halt in stating that at least THIRTY THOUSAND American gentlemen are enthusiastic in the art of angling."

From Wildlife Management Institute report: —3/25/55

"18,580,813 fishing licenses plus free licenses, plus 4,000,000 salt water fishermen."

Let's call it about 30,000,000 as of 1956—one thousand to one—in 75 years.

This tremendous increase has, of course, put an equally tremendous strain on natural resources. The effect of publicity and efforts by forward-looking people has, in twenty-five years, developed a fairly wide-spread interest in the conservation, maintenance and development of resources for both opportunity to fish and for fish to catch. But, the fact remains that the creation of anglers is going on at a greater

pace than all these great efforts at balancing the situation can equal.

Of course, we have not yet completed the public education of conservation. But we have made a dent—in twenty-five years, and we must continue along that line. Yet it seems to me like a dead-end road, at the moment.

The paragraph from "The American Angler" refers to "thirty thousand American gentlemen (who) are enthusiastic in the art of angling." The current popular attitude toward fishing is one that indicates the sport to be a source of food, a premium on the purchase of fishing trip.

The difference between these two attitudes is that one demands more and more fish to furnish satisfaction, while the other demands perfection in an art—the art of angling in which satisfaction is found in a minimum number of fish.

If it took twenty-five years to develop the current public regard for conservation of renewable natural resources, would it not be well to start the promotion of "the art of angling" now?

This angle would not, of course, be popular with many writers at first, nor with publishers. Immediate profits would not be apparent to them. In the long-run, however, there is much to be gained for the future.

My library is "loaded" with material which shows the effect of "the art of angling" on authors, artists, administrators, inventors, and their accomplishments. Material which shows that the "art of angling" is much more valuable to mankind than is the "catching of fish." I see this idea as a means of stretching our supply of opportunities to fish, for a long time. The problem is to develop similar thinking among writers and promotion men.

Canal

Echoes

By **PAUL M. FELTON**

District Forester, Dept. Forests & Waters

THEODORE ROOSEVELT State Park is one of the most unusual recreation areas in Pennsylvania and appeals to the angler particularly because this Public-Use Area happens to be a body of water stretching 60 picturesque miles from Easton down along the Delaware River to Bristol. Known to the local folks as the Delaware Canal, it is the last remaining route in the old Pennsylvania Canal System to have water flowing almost entirely in its original bed.

Way back in 1836 the Delaware Canal was built primarily to carry anthracite coal from the mines around Mauch Chunk (now Jim Thorpe). Under the original system the heavy ten foot by fifty foot wooden barges carried 100 tons of coal and were towed from Mauch Chunk by tandem hitched mules, forty miles down the Lehigh canal to Easton. There the boats entered the Delaware Canal and continued on to Bristol where the next leg of the journey was made by steamboat tug on the river, to Philadelphia markets. The trip back brought a variety of manufactured goods necessary to the up-country folks as most processed

necessities of life were available only in areas of large population, such as Philadelphia.

The old canal was the heavy hauling route up the Delaware Valley and was necessary to get around the river rapids numerous down to Trenton. During a trip from Bristol to Easton, 24 wooden locks were necessary to raise the barges up the 160 foot rise in elevation. Today most of these gates still stand, a mute testimony to our changing program in transportation. You fishermen will be interested to know that most of the "lunkers" caught in the canal are lugged out of the deep water around the locks.

Although increased railroad activity invaded the Valley towards the end of the 19th century thus serving a stunning blow to the slow canal travel, nevertheless the low cost of boat haulage kept the barge traffic moving until 1931 when the last coal barge slipped slowly down canal to Bristol.

Since then the echo of the mule bells and the blast of the boatman's horn warning lock tenders ahead have been silenced. Silenced that is, until the summer of 1955, when a passenger barge with a complement of two stout mules well-belled and an "Honest-to-Goodness" conch-shell horn were added to the canal as a park concession. This barge now travels from the artist colony of New Hope up canal six and one half miles to a flood gate above Centre Bridge and return in a four-hour trip. Weekends and holidays find the ghosts of the boatmen abroad as the mule bells and soft spoken conch-horn announce the whereabouts and progress of the barge "Mary P."

In 1940 when the Lehigh Coal and Navigation Company finally turned the canal over to the Pennsylvania Department of Forests and Waters, many wooden structures were going down hill fast. Cribbings, aqueducts and locks were leaking badly and the yearly spring floods seemed bent on total destruction of the "old timer." From that time on the Delaware Valley Protective Association of local sport clubs along with the untiring work of other influential persons raised funds, miserable at first, later better, to start the necessary repairs and improvement that would at last keep the canal intact and flowing for the fishermen, sightseer and boaters of the area.

Two aqueducts which carried the canal over the Tinicum and Durham Creeks were the worst threats to the water flow and when Forestry-engineer, W. P. Moll designed and re-



CANAL of yesteryear in the vicinity of the Cot & Fiddle Inn. It was an age of stubborn men, mules and conol boots!

CANAL of today below Lumberville, Po. Placid, now, the curses of sweating men, creaking boots and grunting mules are only ghosts of the post.



placed these largely wooden structures with unique steel I-Beam chutes in 1950 and 1952 the repair work was over the hump.

Although native river fish have been slipping into the canal during floods since the time it was opened, it was 1945 when the Pennsylvania Fish Commission first started stocking hatchery fish. Since then almost every year has seen the state hatchery trucks along the water course. Most of the stocking has taken place in the lower thirty miles between New Hope and Bristol where a head of water has been maintained most consistently.

The 1954 stocking for example consisted of 34,000 largemouth and smallmouth bass; 3,000 catfish; 1,400 yellow perch; 2,800 sunfish and blue gills, a total of 41,200 fish stocked between Bristol and Reigelsville. Warden Karper scattered these fish pretty evenly to prevent bunching up in any one of the twenty one levels.

Well, we know that the fish are there so let's look at some evidence of the "catching." Robert Konefal, a twelve-year-old boy who lives with his folks at Lock House No. 4, caught a 19 pound roe carp not long ago and claims to have taken in the month of October three

piekerel over 20 inches long; twelve largemouth bass, the largest 2½ pounds and many yellow perch up to 12 inches. In this same area, Bobby has been trying to catch the granddaddy of all piekerel in the lower end of the canal claimed to be over 30 inches long. The canal maintenance crew has seen this fish from time to time setting off a concentrated fishing regatta at each discovery.

The high rock bluffs and trees along the canal tend to shade the water from the summer afternoon sun, thus keeping the shallow water temperature down. Perhaps the greatest help to fish life is found in the dense eel grass and duckweed found in the section between Bristol and Yardley. This aquatic growth is lush between June and October and provides beautiful fish cover for largemouth bass up to five pounds in weight. Pluggers with weedless-type lures have good luck at that time but most fish are taken after the grass purges during November, at which time it rises to the top of the water and floats off.

The upper end of the canal from New Hope north has been the scene of quite a little stocking in recent years including smallmouths and panfish. Here's a tip: Most of these fish will swim up to the head of the water level in which they were stocked to linger right below the lock feeder chutes where the water is rough, well aerated and food is deposited. Of course suckers, catfish and carp will be found all along the still levels.

After the devastating August 1955 flood gutted out the upper canal, over 150,000 fish of all kinds were seined by Pennsylvania Fish Commission under the direction of Warden

Tom Karper. Most of the fish came from isolated pools in the low spots of the canal bed after the flood crest dropped back to normal and the canal was relatively dry. How many fish went down the river with the flood is hard to tell, probably many more than were rescued.

The Pennsylvania Department of Forests and Waters has seen fit to replace about seven miles of towpath and a multitude of washed out structures so that shortly after Christmas the water began to flow back through the length of the canal. Fish stocking in the Easton-New Hope section will start after the newly rebuilt canal banks settle firmly, probably in early 1957 according to William Voigt, Executive Director of the Pennsylvania Fish Commission. Pre-stocking surveys are scheduled for this spring. Meanwhile all kinds of fish will be drifting in from the Lehigh River in Easton and the waste gates along the Delaware River.

You "walleye" fans will be interested to know that seasonal floods are apt to load the upper canal with this well sought fish which slip in on a high river. Warden Karper and his crew seined over 200 walleyes from an isolated pool after the last fall flood, all running around 24 inches and Tom is not given to "Malarky" either. Well, so much for this little known stretch of fishing water. The fish are there in the lower end and will be back in the upper end soon. Even if your luck is poor you're sure to enjoy the superb river bluff scenery, especially those long shadows in the afternoon. Take a trip down one of Pennsylvania's most unusual State Parks sometime and don't forget to take your fishing tackle!

Leave It Unspoiled!

"A *STREAM* is something more than a faint line on a map, a geographical boundary, or a body of water. A stream is a living thing related to the sun and the wind. A stream is a thing of beauty, a source of joy . . .

"The cold, clear waters of mountain streams have inspired poetry and song for generations, have revived lost faiths and saved the jaded."

—L. O. Williams

the **B**ig **I**tch

By **D. D. DOUBLE**

When the Doc says . . . "you betchum, chum, you've got poison ivy so try not to scratch it," he might just as well say . . . "try not to breathe." It's the most miserable unhandy stuff. You can get any amount of folks to go along with this trite statement.

It hardly seems possible for such a pretty plant to give out with so much misery. It's perfectly hardy, grows anywhere and everywhere, climbs beautifully, good color, glossy sheen, and would be great shakes of a vine to replace English Ivy where it refuses to grow in tradition over the halls of Montezuma. But nobody . . . yep, nobody wants any parts of it growing over the garden arbor, kitchen sink or anywhere else. You can give this climbing batch of potent pox back to the Arabs. It's Public Enemy No. 1.

Despite all the press releases sent out every summer season, warning about this dangerous pest, many folks still cannot recognize it. They happily yank it out of their garden plots, wade through it in fields as blithely as comin' thru the rye, climb over fences while sticking their mitts deep into the heart thereof, spread a picnic cloth over a patch of it and proceed to munch contentedly on a red beet egg while practically sitting on disaster.



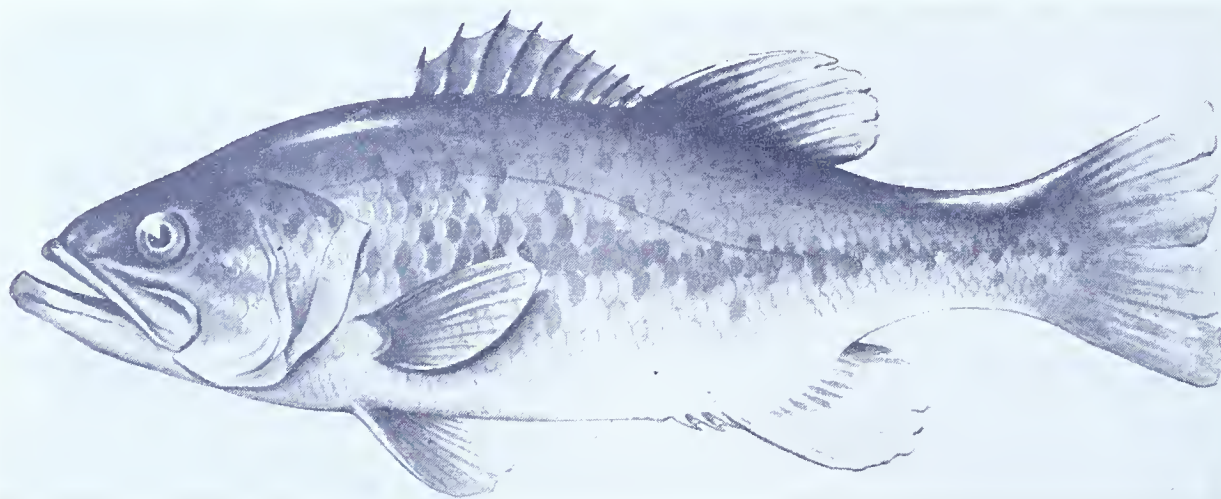
Pa. Dept. of Agriculture Photo

PUBLIC ENEMY NO. 1. POISON IVY. It's pretty, luscious, hardy, strong grower, but as dangerous as a hair-triggered, sawed-off shot gun.

Well . . . just how you gonna' recognize this monster, this viper, this fiend that literally and figuratively ties up thousands of woe-be-gone people each summer season? Simple. Get somebody who knows to take you to it where, from a respectable distance, you will get an indelible look at this nightmare and never, no never have further truck with it henceforth. If nobody you know knows what it is, then the only thing to do is avoid vines or plants with leaflets that come always in sets of three. Remember the 3's are murder! No threes. If you see three's get the heck out of there. Quit . . . vamoose . . . get lost.

Every part of the dadgummed plant is poison. It's full of it . . . roots, stems, leaves, flowers, fruit and sap all have this nonvolatile poisonous oily substance. Even dead leaves and stems are as dangerous as living ones and smoke from burning plants carry sufficient toxin to

(Turn to page 18)



LARGEMOUTH BASS (*Micropterus salmoides*)

Also called Bronzeback and Bigmouth locally. Not so abundant nor popular as the Smallmouth in Pennsylvania but prized by Keystone anglers nevertheless.

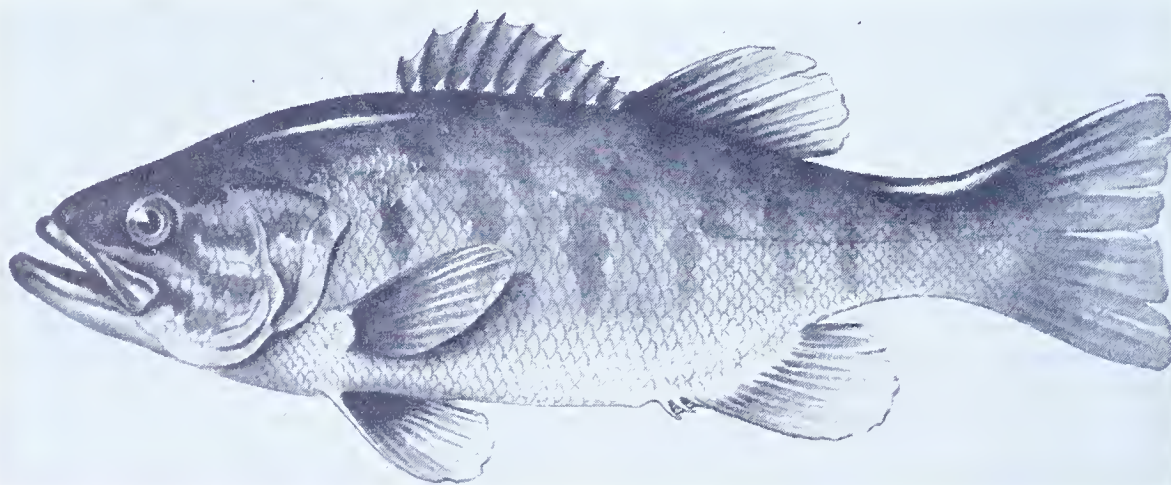
RANGE: Now found in every state. Within this century has been introduced into Germany, France, Spain and oddly enough, quite successfully introduced to South African waters. Abundant in U.S. southern waters.

CHARACTERISTICS: Color influenced by color of surroundings but general color is dark green on the back, shading into lighter green on lower sides with a greenish-silver or yellowish-white on belly. In all cases, a thin black line or strip runs along sides from top of gills to middle of tail. Although confused with the Smallmouth it can be readily distinguished because jaw joint of Largemouth extends back beyond eye while on Smallmouth it ends directly beneath it. Cheek of Largemouth has 9 to 12 oblique rows of scales. Smallmouth always has more than 12 and usually 12 to 17 rows.

HABITS: Pugnacious, its evil temper is often its downfall. Slow moving streams and lakes with lily pads and weedbeds are preferred. They spawn in the spring; male prepares nest; after spawn is developed, guards it. Average nest holds 4 to 5 thousand eggs which hatch from 2 days to a week depending on water temperatures. Young remain on nest a few days, then able to forage for themselves.

FOOD: Worms, insects, frogs, crawfish, minnows, mice, etc.

LURES: Wet and dry flies, bass bugs, sinking, floating and diving plugs, also spoons, spinners, bucktails, pork rind lures.



SMALLMOUTH BASS (*Micropterus dolomieu*)

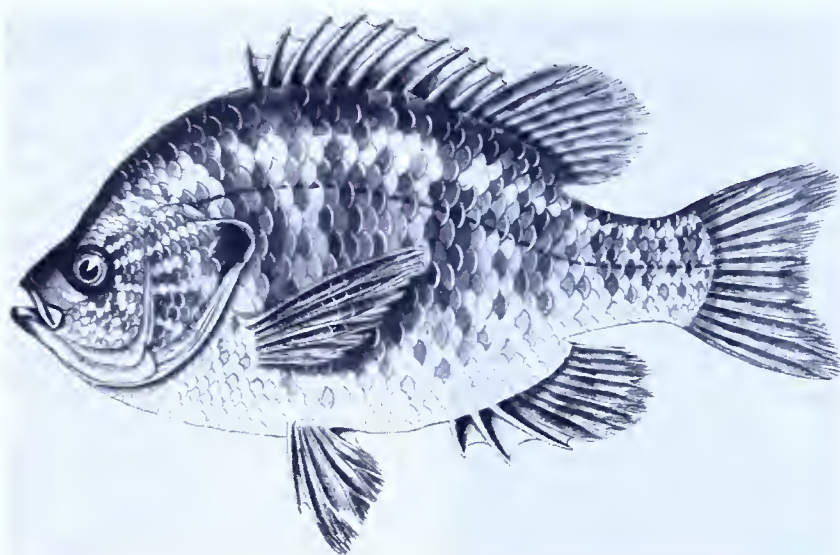
Perhaps not so aristocratic as the trout but considered by many anglers the toughest, roughest fresh water game fish of them all. ounce for ounce, pound for pound.

RANGE: Found in nearly every state, and Southern Canada, due to transplanting. Prior to introduction was native to area from Georgia to southern Canada and from East Coast to Mississippi Valley.

CHARACTERISTICS: Golden-bronze green or brownish-green, depending upon water conditions. Usually lighter in color than Largemouth. Shades to white on belly. Darker brown or bronze markings form vertical bands at times on the sides. Usually a dash of red is present in the eye. In addition to distinguishing characteristics mentioned in description of Largemouth the dorsal fin of Smallmouth is not deeply notched. In Largemouth, dorsal fin is so deeply notched it often appears as two separate fins.

FOOD: Minnows, frogs, crawfish, worms, insects.

LURES: Wet, dry, streamer flies, spinner combinations, bass bugs, all types plugs spoons, bucktails, pork rind lures, nite crawlers, minnows, frogs, crawfish.



PUMPKINSEED (*Lepomis gibbosus*)

One of the most beautiful of all freshwater fishes it has many names, principal one being sunfish, generally applied to all small members in this family. Usually conceded to be fair game for youthful anglers but extremely tasty and rich right out the frying pan.

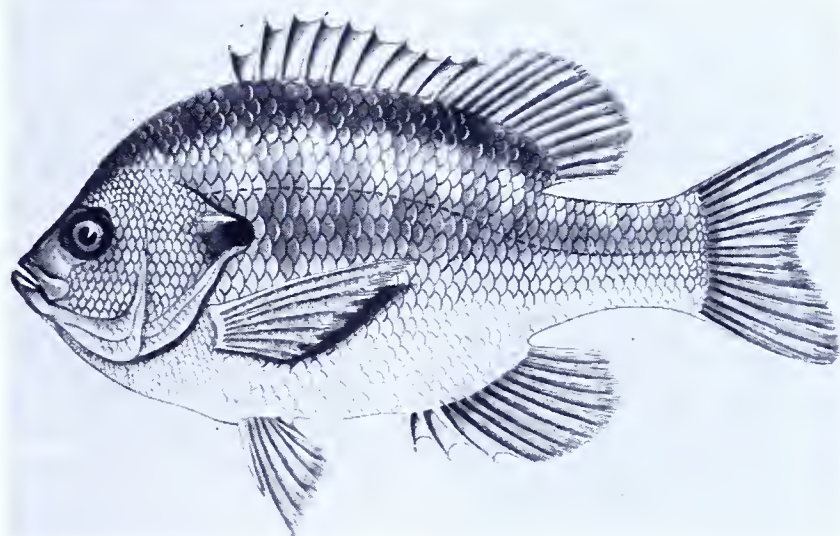
RANGE: Now abundant in every state, also Mexico.

CHARACTERISTICS: Color varies but generally greenish-olive on back with a series of darker vertical bands or stripes running from dorsal fin to slightly below the lateral line. Sides are dotted with orange spots, belly is orange colored. Cheeks are deeper orange with wavy blue lines radiating from mouth to edges of gill cover. It can be distinguished from other sunfish by the red spot on the gill cover. Also body is usually heavier in proportion to its length than other sunfishes.

HABITS: Usually found in slow moving streams, canals, ponds, rivers in weedbeds, pond lilies, old tree stumps, docks, boat landings, etc. Spawning of all sunfish are similar, spawning in late spring and early summer. Male prepares nest, guards eggs until young are ready to leave. Pumpkinseeds often spawn more than once during the season. Hybrids are quite common among members of the sunfish family.

FOOD: Insects, flies, small minnows, worms, leeches, snails, etc.

LURES: Small fly and spinner combinations, worms, minnows.



BLUEGILL (*Lepomis macrochirus*)

One of the most popular of the panfishes, especially in the South where it is commonly called a Bream. Gives a good account of itself on light tackle and thereafter rolled in coarse cracker crumbs, fried just right!

RANGE: Originally native to Great Lakes region, Mississippi Valley and South Atlantic states, now found in nearly every state and southern Canada.

CHARACTERISTICS: Generally, dark greenish-olive on back, with a purple iridescent cast, and chainlike, transverse greenish bars. Cheeks are iridescent blue, gill cover is jet black. Belly varies from reddish copper to brilliant scarlet. It lacks the orange or reddish spots on the sides so characteristic of other sunfishes.

HABITS: The Bluegill is a school fish, where you catch one there are usually others around. Not fussy as to type of water but prefers to be at home around brush piles, old stumps, weeds, etc. It differs in spawning actions from other members of the sunfish family in that it does not keep its spawning bed segregated from those of other individuals but form them resembling a colony usually in shallow water. As with other sunfish, male prepares and guards nest. Prolific spawners, they tend to feed upon eggs of other fish and are so abundant in many waters they become stunted in size.

FOOD: Worms, insects, small minnows, grasshoppers, crickets.

LURES: Fly and spinner combinations, worms, small minnows, crickets, grasshoppers, small shiny spoons and spinning lures.



PUBLIC ENEMY NO. 2—Poison Oak if you see 3 sets of leaves—leave!

give you the works if it blows against or over you.

While late spring and summer are times of greatest susceptibility you can certainly pull up with a dose of it in winter by jerking around the seemingly dead vines along trees, etc. You can even get it from dogs or cats that have recently made a trip thru some of the stuff and then rub against you. Best thing to do here is to wear waders at all times . . . (oh no—) but it just shows to go you how this blasted plant can bedevil a saint. Even if you shun it like the plague it can jump from pets to you like fleas. You can't win. Your chances of getting it at one time or another are 70 to 1 . . . nice odds at any track.

And, if you listen to what some clucks say about eating young leaves as a preventative, you don't need a Doc, you need a hole in your head. Eating the leaves is like playing Russian roulette. Some guys have done it . . . some lived, others got that hole in the head. Yep . . . there are cases on record where people ate the leaves and got poison ivy of the gizzard, a most discouraging ailment. Actually, there are recorded deaths of children who have eaten the leaves and berries. So don't go chumping on the stuff, go get a banana split . . . they can cure ptomaine much easier.

If you even suspect you've been fishing or potting around the stuff get to a cake of strong alkali soap pronto and wash thoroughly, (this isn't our remedy). After five minutes the poison sap has dried onto your skin and cannot

be washed off. Now this is downright inconvenient. First you gotta tote a stinky soap box along wherever you go and second, you must get your clothes off promptly right where you happen to be, jump in a lake and wash like crazy. No soap. This just isn't practical.

So what you agoin' do? So why ask us . . . when we get the miserable stuff too. Just how do you figure you're immune year in year out when the very next time you change an automobile tire that ran over some of the stuff, you gets a beautiful case of itching postules. Can happen—has happened!

Now after you have contracted this con-founded paperhangers' mischief what's the cure. Dear old Buddy, Buddy . . . there ain't none! S' fact! 'Taint a thing can cure it. Like in the common cold . . . when you have it . . . you can have it. It runs its course and that's that. Yet . . . don't try getting a bunch of junk from the store. Every year people spend an astounding amount of dough on remedies that do exactly nuttin'. But see a Doc so he can keep those messy, running open sores, (yahhh, it makes my stummick bounce) from becoming seriously infected, the greatest danger of the disease.

So far we've only had one strike on us. Let's keep swinging. Now hear this! It's revolting to know you get three strikes (see, there's those fatal 3's again . . . get out of here!) on you . . . poison ivy, poison oak and poison sumac. You can get you're stack of misery out of any or all of 'em. You takes your pick . . . you takes your chances.

Poison oak also has three leaves like ivy. America has exclusive rights to this evil leafy curse because oddly enough, it doesn't grow anywhere else. We got the kinda skin it loves to blotch. Poison sumac is distinguished (distinguished, bah!) from the non-poisonous plant by its absence of a terminal fruiting spike. That's the only difference and now that you know from nothing, we do present a few photos herewith; but like we say . . . get somebody who knows to actually show you these characters in the field. It's the only practical way to identify the rascals. Throw 'em out!

Poison oak and poison sumac react on your epidermis much like poison ivy . . . red, running sores, watery postules . . . aaaaaaaah! Hey, we gotta get out of here now for here's where we came in. Sorta makes a guy feel itchy all over, huh? Go get a bath—where's that stinky soap?

By RAY OVINGTON

first morning **BASS**

YES, that first morning the lake or stream, under a protective haze, is calm as a mirror. The many variations of green gently sifting through the mist make up the background of the shoreline. Quiet oar strokes hardly cause a ripple. The first cast to the grass along the shore brings a wallop strike . . . a miss! The heart begins to pump as you retrieve the lure. The next cast goes well ahead of the boat to an old windfall. Bang . . . and he's on this time and in the air, shaking the daylights out of the plug! He's up, he's down . . . there's a slashing run, another jump . . . now he's walking on his tail, another jump and he's off, madder than Hades, still jumping and thrashing the surface, stung by the barbs. Gad what a fish! Further down the lake you take a little one and admire his spunk and his colors. The sun is higher now and the shoreline begins to take on definition. Downshore a little is a clump of willows. There'll be a big one there. A slight breeze drifts over the back of your neck and ruffles the water just ahead. Gee, what a beautiful morning. What a way to start the season!

By noon, you've lost twelve fish either on strike or in play, but you've got three beauties and a couple of small ones. They'll taste good for lunch and won't the spouse of the house wear a pleased smile! Ah, that's bass fishing . . . backyard fun, easy fishing near home.

Sure, wilderness bass fishing has its great allure too, complete with portages, overnight camping in the wilds and the call of the loon from a pine clad island. Taken in any form . . . bass fishing is tops for sport!

About fifteen or twenty years ago, many bass anglers began using the smaller sized plugs for they discovered that these lighter lures were as killing and in some cases, more killing than the big monstrosities they had grown up with!

Wobblers, divers, darters, poppers . . . the trend in all sport fishing was towards lighter more sporty gear. Bait casting rods were becoming longer, slimmer, more springy, thanks to advanced rod building talent and the new model reels were designed to handle line down to four and six pounds. The "midget plugs" as they were dubbed, were in reality, small versions of the large standard killers of the day. When spinning came

along, these little plugs were just what the doctor ordered. Now, with the four pound line that is twice as effective as the old eight pound string, not to mention the light glass spinning rod with its fast action and great cushioning ability, bass fishing has become a snap.



I watched a number of bass fishermen this last year, I should say most of them were armed with spinning tackle but the sad part is that they were using line that was too heavy. First of all, heavy line restricts the distance of your cast and is unnecessary with the light action spinning rod. The rod itself would break before the line and, under rational fishing conditions, I haven't heard of anyone breaking a tubular glass spinning rod on a bass yet. Plan, in most cases to use four pound test, or if you fish in areas that are excessively weedy, six pound. You can't pull down a tree or uproot a snag with line this light, but with proper handling, a snagged plug can often be jigged free. If you have to row in to free it, so what? Come back to the area later when things have calmed down a bit.

Nowadays, with the advent of lighter, better action, more powerful spinning rods and line that's made to stretch to the right degree, it is possible to handle most bass on line testing only three pounds. Last season I hooked into a big bronzeback while casting along a bit of beach near where we keep the boat. I snagged into some floating weeds and was trying to jerk the lure free when the plug was hit with such force that not only was it released from the weeds, but I was darn near knocked out of the boat. Immediately the bass bore down, pulling weeds along with him and I expected at any moment to feel the line go limp. It

was simply a matter of relaxing on him, a favorite trick that is worth recounting here. When a bass of gigantic proportions hits light tackle and decides to put you up on the spot, fox him by relaxing the line, for when he has less to fight against, he'll merely swims around and then it is by your direction that he tires himself out.

I have gone through periods when I have been positive that color means almost everything. I have "proven" this fact. When you take twelve bass in one night on a red and white jitterbug and your partner using the same lure in a frog color takes only one, that isn't just coincidence. Lately however, I have been more particular about action.

Four years ago I started fishing a new lake and found the jitterbug absolute death on the bass. This last season I was surprised to find that the bass had evidently gotten over their desire for the jitters and I didn't take a bass on it. I did get action however, each time I used either the jointed Voo Doo or the Flatfish. The more I fish, the more I believe in changing your lure. Often now, I fish slowly over a given area, casting one plug a couple of times, let things settle down a bit, then tie on something radically different. I find this pays off and have come to the conclusion that both color and action can become boring to the fish but offer them something of a variety and they will prick up their fins.

POP-casting for bass

By **CHARLES K. FOX**

THE angler who delivers his lures with either a plug casting outfit or spinning equipment in lake or stream must play the percentages if he is to realize a reasonable number of strikes under the varying conditions. This is the secret of success of the fellow who enjoys the local reputation of being an efficient producer much of the time. He is no specialist such as a night fisherman, fair weather boy or evening angler; on the other hand he is out there as much as possible, come what may, trying to make the most of existing opportunities.

There is a definite pattern to his procedure. At night he fishes the shorelines with a surface lure; during a summer rain he retrieves his swimming underwater plug just beneath the surface; in the fall he combs the depths with a sinking lure; in cloudy water he fishes a commotion-making propeller lure at the fishes level but not necessarily in the deepest water;

during a heat wave he may go very deep in a lake during the brightest, hottest hours; and the rest of the time, which is most of the time, he has his lures near or on the surface. The last of these categories, the rest of the time, is by necessity the important one, simply because it is the situation which prevails during daytime fishing throughout much of July, August and September when, for the most part, the water is clear, low and warm.

There is a perfect answer to this most common situation; fish the surface and the subsurface on the same cast, in other words, pop-cast. Many fishermen of the South learned this technique in the earlier days of plugging—at least three decades ago. It has not caught on in the North to any great extent, but, make no

mistake, some of the best depend upon it and in certain cases this is the secret weapon.

Robert Page Lincoln, author of *Black Bass Fishing*, was probably the first outdoor writer to promote pop-casting. An old warden from Huntingdon County, the late Linc Lender, could well have been the first to latch onto it in the Keystone State. One day in the early thirties he gave Charlie Long, another warden, and me a practical demonstration on the Tuscarora Creek near East Waterford. Lloyd King, Southern Pennsylvania's premier big bass snatcher, employs this game. Bruce Brubaker, the casting champion, capitalizes on its potential. George Phillips, lure manufacturer from Alexandria, is excited about it. Bob Bates, Pennsylvania's first spinning fisherman, depends upon it—and so do some of the other plugging and spinning artists, particularly those who have made a study of their sport.

The procedure is logical and simple. The lure must float when at rest, but on the normal retrieve it travels under the surface. The principle is to deliver the lure to a spot of promise—target fishing—and make it loiter over bass as it bobs, gurgles, plunks or rolls. If no strike is forthcoming, it is ducked under the surface and quickly and silently retrieved through second-rate water. The effect in the eyes of the bass could well be a struggling cripple right in his own domain followed by an attempted silent escape. Thus two water levels are fished on the same cast with two totally different actions and the lure is in the better location for a longer time. If the more spectacular surface method is unproductive, the start of the sneak escape or the long underwater retrieve may salvage something from the cast.

By and large the big bass fall for the surface commotion and the fliers strike on the subsurface retrieve. This is a time-saver compared to the operation of a 100% surface lure, which to be at maximum efficiency must be worked slowly, even over second-rate water. It is inadvisable to effect too rapid a retrieve with the true surface lure lest the water be scratched to such an extent that the fish become suspicious. One does not induce bass to strike such a lure when it is rapidly plowing its way across low, thin, clear water; the speedy retrieve under such conditions is for a silent underwater lure. Therefore, the pop-casting lure during the course of a day's fishing is cast more frequently than the surface lure.

I have come to appreciate pop-casting so highly that it is employed about 75% of the time spent on smallmouths, largemouths and pickerel, but about 75% of the time the stage is set perfectly for it. This is such an enjoyable method that it is downright difficult to forsake it, at least by daylight, for a lure which requires different management. It has been interesting to observe the tenacity with which some of the other fellows also cling to it.

The following series of incidents in the limestone ledge water of the Susquehanna below the Pennsylvania Turnpike Bridge illustrates the general idea of the application of different type lures to varying conditions and the place of the pop-caster in the normal scheme of things.

The heat and drought of mid August had made the big river wadable and interesting. The pronounced



smooth flats above and below the submerged ledges were inviting and the footing was good. It was possible to work one's way well across the river on a ledge and fish out the deeper unwadable water above and below, then by judicious wading, drop down to the next ledge and fish in the opposite direction.

For some hours a pop-casting lure directed quartering upstream drew burbles, some of which were bona fide strikes; others were one-timers which could not be induced to return. The lure was worked on the surface until it passed over the ledge on which I stood, and from that point it was retrieved underwater directly below the ledge—both real hot spots. Throughout most of the day there was action and more bass hit the lure as a surface plug than as an underwater swimmer.

Late in the day black clouds rolled out of the West and in a short time big rain drops from a mild thunderstorm splashed as they pounded the surface. Surface action would have been lost amid such commotion, so a little sinking propeller plug was attached to the business end of things. For a period of about one hour, the duration of the rain, there was plenty of action featuring strikes from two big bass, one of which was lost.

By the time dusk set in, the storm had subsided and the sky had cleared in the West as clouds passed Eastward. The Tiny Torpedo, a surface lure, transplanted the sinker and it was worked slowly and with short jerks across a large shoreline bay which bass frequent at night in search of their indispensable crayfish. After things had quieted down and nightfall had settled, the big strike occurred and the reward was the best fish of the season.

All in all it was quite an outing with those rough, tough, but shy, river smallmouths—one of the most enjoyable days I ever experienced. The beauty of it all was the fact that each type lure in turn produced real action as conditions altered, but it was the pop-caster, the most enjoyable, which carried the load under the most difficult, but typical, situation.

The question automatically comes to mind, what are the pop-casters? In spite of the fact that the showcases are literally loaded with lures, there are but few capable of serving the dual purpose, and of the floaters, very few will produce the best in surface action: Lucky

13, Bayon Boogie, Midg-Oreno, Phillip's Big Boy, the Eager Bait Company plug with the V lip, Shakespeare Mouse, Lazy Ike, Flat Fish, Hula Dancer and Little Eddie are possibilities. Two old designs, no longer available, were applicable and deserve a revival in the 1/4 oz. size: Carter's Old Black Joe and Shakespeare's Jack Jr.

As for personal choice, there is one prerequisite; every lure in the kit must weigh approximately 1/4 oz.—180 grains is too heavy and 85 grains is too light. The 120 grain weight (1/4 oz.) is just right, simply because time has demonstrated that this is the best size for bass. Such a lure not only hits the surface with a flat smack which attracts bass in relatively low, clear water, but it approximates the size of the choice food which is consumed regularly. The crash landing of a heavy lure scares fish unless the water is deep; the light plunk of the very tiny lures is insignificant. It is that flat smack of the quarter ounce lure which brings best results; in fact it plays up to the greatest weakness of a big bass, the tendency to quickly turn on the right size lifelike creature which lands overhead or nearby. Without hesitation and with reckless abandon interest is registered. No matter whether the lure is delivered by means of plugging or spinning equipment, the principle is the same and results are identical.

In order to have superior quarter ounce pop-casting lures which not only produce fine surface action but swim well on the underwater retrieve, some of us make our own. Three basic designs have solved the problem, a problem which, incidentally, does not exist with lures in all the other categories. One is a V lip affair which

catches water in a manner similar to the Hula Popper type and has an irregular swimming action on the retrieve. Another is a propeller 'fore and aft' job which is just buoyant enough to float at rest, but when drawn steadily, submerges and fishes exactly like the standard torpedo-type sinker. The third is a twirling head affair which purrs wonderfully on the surface and can be made to churn and swing, and on the underwater retrieve there is a slight dodging or hesitant action.

All three are excellent in principle and effective in practice and they seem to fish on a par with each other. It is the first of these, however, which enjoys the local reputation. It is known as "Spark Plug," a name given to it by a fellow probation officer, Jordan Ewell, a cousin of Barney Ewell, and the one who started Barney on his winning ways on the cinder paths of Penn State and the Olympics. Jordan used to look at the blisters on my whittling hand and laugh about the hot spark plugs. Somehow the name stuck, and it is not a bad name at that for a bass lure.

If it is not possible for you to secure a pop-caster which suits your fancy, it might be well to try working one of your own design out of red cedar. It could well be that you will come up with the most useful lure ever produced as far as you are concerned—and that's what counts. Of one thing I am sure, once a plugging or spinning enthusiast devotes some time and thought to pop-casting, he is going to rely on its potential and he is going to appreciate the pleasures which attend it.

Preserving Proof

By KEITH C. SCHUYLER

THERE is no denying that a large part of the thrill in catching a big fish comes when we display it before the envious eyes of our friends and family. Sometimes, if the fish is truly a prize winner, we may want to have it mounted.

Improper handling of a fish may provide a disappointment when we get it home . . . especially if we have a long distance to travel. What was a beauty in the net may be a leathery, wrinkled and bloody chunk of meat with scales on it by the time we drag it out for inspection. Any chance to have it mounted might have been lost by careless cutting when the fish's entrails were removed.

To ensure that our fish will retain its beauty for mounting, or for photographing, requires little effort. Simply select the least attractive side of the fish and make an incision just above the bottom of the rib cage along the side of the body cavity. It is just as easy to remove the waste parts through this opening

as when using the conventional cut up the belly. Do not remove the gills.

For photographing, neatly fill the body cavity with paper or cloth and mold it to the fish's natural shape. Then hold the best side toward the camera. Since only one side shows even in mounting, the taxidermist will be able to do a good job if you prepare your fish in this manner.

If the body of the fish becomes mottled or marked from contact with another object, water and a light brushing will bring back the true color. Do not brush against the scales.

These simple precautions, providing that you keep your fish cool and slightly moist on the way home, will give you a chance to always have your prize and pride in perfect form . . . on film, or hanging on the wall.

Then when you want to brag, you'll have proof of your skill . . . an all too often absent adjunct to "big fish" tales.

Ruining A Trout Dinner



By ERIC SYLVA

MORE GOOD trout dinners are ruined in the creel than are ever spoiled by versatile diets fed to the fish in the hatcheries, where they first saw the light of day.

I have heard veteran, fanatical trout fishermen stand up and swear that a "hatchery trout will rot on the hook," and that they "wouldn't give a dime a dozen for a whole carload of them for eating." These same individuals lay the blame for the unsavory taste of hatchery-reared trout upon the diets of the fish, major contributor of which they claim is the liver, a common food fed at most hatcheries.

It is regrettable, from my point of view, that while those fellows were learning so well the art of catching trout they didn't have somebody along with them to show them how to take care of the ones they caught. These same men who accuse the domestic trout of tasting like liver, or whatever else it may have been fed, would laugh at anyone who accused the mushroom of tasting like the material that goes to make it edible and give it that delicate flavor. Yet, it makes as much sense. Both the trout and the mushroom derive the nutrients, but rarely if ever the flavor, of the food they utilize.

Fact of the matter is, today's hatchery-reared brooks, browns and rainbows get only a small diet of liver or other raw foods in their feeding schedule. But the criticism has been so widely spread from fisherman to fisherman that all hatchery trout taste like liver, that it doesn't take much imagination to "know" they do.

The idea has been so well accepted in some quarters, that several home economics departments of some of our major colleges and universities have been prompted to conduct experiments to determine its validity. These experiments were sound, unbiased undertakings with no conclusions drawn or implied or expected beforehand. In these tests, trout of the two varieties, wild and domestic, were identically prepared and offered to volunteers who tasted and assigned a rating to

flavor, texture, appearance and all other characteristics of food qualities which contribute to the palatability. The conclusions reached were to the effect that "trout fishermen just must like to argue for the heck of it."

Still, there must be some "fire" behind all this "smoke," and after watching a few thousand trout anglers abuse their catches, it isn't difficult to figure out how the whole doggone thing got started.

Without some special care in handling them, all of the salmonoid fishes of which trout are an important member are "quick rotters." They are all subject to comparatively rapid bacterial decomposition, particularly in hot weather, June, and July trout catches generally do not compare in flavor with those caught earlier in the year. This is still not the fault of the fish, but the fault of the fisherman, and the way he handles his catch.

On these sweltering days of summer any trout which is caught and dumped into the creel immediately will begin to spoil in a very short time, unless it is handled properly. And this will happen no matter how much lining you may have in your creel. Fact is, a moist lining of wet grass and laurel leaves may even hasten the decaying process. "Normal bacterial decomposition takes place only where heat, moisture and suitable quantities of organic material are found." In the creel lined with moist grass you have an ideal set-up for decomposition when you drop in the trout.

It is not difficult to spot spoilage in trout. First there is the separation of the rib bones from the body wall and a general softening of the meat. This softening of the flesh is one of the less desirable qualities of any fish. Even restaurants and fish-distribution advertisers praise the "firm flesh" appeal of their products, inferring of course that firm fish is fresh and a very desirable quality.

This "rotting" does not have to be the rule for "hot weather" trout, however, and by following a few

quick and simple rules the stream-fresh flavor of any trout can be preserved for a long time. The fish can be kept in good shape for two and three days at a time without refrigeration. Upon landing a trout, the angler should not casually toss it into his creel, but rather he should slit it open at once and remove all the entrails. This includes gills and heart, as well as the intestines. Also, the kidneys, that dark red strip of tissue lying up against the backbone, should be removed quickly by scraping forward with the thumbnail.

After the entrails are out, a twig of some sort should be run through the center of the body cavity to keep the sidewalls open to dry and to get plenty of air circulated between them. A fish should never be washed with water in this operation. The only time fish ought to be washed is just prior to cooking.

A cloth or paper towel should be used to wipe the inside of the fish thoroughly dry, and then dry the

outside. When the fish is put in the creel it should be separated from other fish by dry, *not wet*, grass.

Sometimes fishermen go for long trips into hinterlands where they believe the fish must be eaten immediately or else they will spoil. There is a solution to the refrigeration problem here, too. Giving the fish the same treatment as described above, hang the fish out at night where the air can get at them during the cool evenings. They should soon become air-glazed, after which they should be wrapped each morning in newspapers and in turn wrapped in a sleeping bag, blanket or even a rug. This heavy wrapping insulates the fish against heat and likewise protects them from flies and other insects of most types.

While it is admitted that when these air-treated trout are taken home they do not resemble the fresh-stream fish, they will taste every bit as good when fried brown in butter as any "native" ever tasted, even in those "good old days."

How the bass got its name

By DAY C. YEAGER

THIS fish received its name in 1824 on the shimmering waters of Lake Turbid, Michigan. Two German extractions were seated in their late model fishing boat which sported the newest thing in power, . . . oars! As they fished, the more distinguished one spoke.

"Und now, Ein, Zwie, Drei, Schpiel." He began waving his arms as the younger man sang.

"Ach du lieber schnitzelbaum, schnitzelbaum. Schnitzelbaum, Ach du . . ."

"Nein, nein, Adolph. Das ish schtinkin. Ver ish der schpirit. Zee nein haben gerputtin out."

"But professor, I nein gerfeelin here, in der mittle." He pointed to an obvious middle.

"Vy Adolph. Vy is das unterhappy?"

"Der fisch, vas is las nein bitin."

"Ya, das is true."

Just at that very moment however, the bottom of the lake erupted. Adolph had snagged a wallop. To, fro, yon, hither, and thither, the tiny boat was tossed until finally the finny denizen was brought to a screeching halt. When the two men had finally hauled the fish aboard, Adolph's eyes were aglow with happiness.

The professor raised his hand once more.

"Und now, Adolph — Ein, Zw . . ."

Adolph didn't wait. He burst forth into song as he had never done before. The professor smiled as they headed for the dock, Adolph's voice echoing off the nearby mountains.

Ach der lieber Schnitzelbaum,
Schnitzelbaum, Schnitzelbaum,
Ach der lieber Schnitzelbaum,
Ya, ya, ya."

Crowds gathered at the shoreline as the wonderful news spread. The professor introduced his new discovery as everyone cheered. They had never seen such a large fish.

"Mein friends, Ve haf found the greatest basso profundo in der vorld."

They left the next day, Adolph carrying his fish, the professor waving his arms and both singing "Ach der lieber . . ."

A few days later one of the local residents, Joe Smatch, caught another fish, smaller than Adolph's. Again the crowd gathered and cheered.

Joe held up his fish proudly.

"Speech, speech," they roared.

"I caught it and I'm glad." Joe said. "I guess this basso pre—pro—"

"Basso profundo," someone helped out.

"This Basso Profundo—" Joe continued.

Some spoiled sport in the crowd yelled out, "that's too small for a basso profundo."

"Well," said Joe, "at least it is big enough to be a basso."

The residents of Lake Turbid caught many bassos in the years following, until one day it became obvious that the bassos were getting pretty small. In fact they were too small to even be bassos and thus were called "bass."

Some that I have caught recently have been even too small to be called bass, but if the word gets chopped once more it may sound like an opinion. I trust it will remain as it is.

Spat Fishing for bass

By **DON SHINER**

BUG or spat fishing for bass has really developed into a popular angling method in Pennsylvania. To many anglers it is the most thrilling of all types of bass fishing, comparable to dry fly fishing for trout. In fact it was this group of fishermen who popularized this method here. Being ardent followers of the dry fly during the spring trout season, it was only natural that they should continue some form of fly fishing for

bass during the summer months, using more suitable flies, namely the soft and hard bodied bugs.

Though it has only been in recent years that bug fishing has risen to the popular height of today, it is an old form of bass fishing dating well back to the 18th-century. To search into history for the first mention of the hass bug, records are found that show the Seminole Indians in Florida were using crudely made hags to catch southern bass in the early 1700's. Even the Canadian Indians made lures from hollow caribou hair for the northern bass. Then in the 1800's, Everson Hough and Dr. James Henshall borrowed these Indian lures and began experimenting and writing of their good success with bug fishing. During the same period O. C. Tuttle began tying hair bugs to imitate actual insects upon which bass fed heavily. From these men and others came the early phases of fishing with hair bugs and the hair bug was promoted throughout the country by those interested in a form of fly fishing for bass. Bugs were being made in various shapes and colors but none copied the frog, a food that remains a substantial part of the diet of bass, until the early 1900's when Joe Messinger of West Virginia, tied the first bucktail frog. His original frog lure remains today as one of the most beautiful and deadly bass lures in the entire line-up of bugs.

While the hair bug was being developed and the technique of using this lure was being popularized, the cork or hard bodied bug had its beginning early in 1900 when E. H. Peckinpaugh, a stone mason in Tennessee, fastened a bucktail to a piece of cork. "Peck" found that bass would take a bucktail fly more readily on the surface and this led him to place a piece of cork beneath the bucktail to float it. His first bugs were made for his own use and those of his friends, but within a short time the fame of the hard bodied bug spread across the country. Dilg, Wilder, McCarthy (the latter developing the hump shanked hook) and others added new designs to the cork bodied bugs while other prominent fishermen were experimenting with new types of rods to handle these new lures.

Hair bugs were immensely popular in the south, becoming known there as "spat" fishing, deriving its name

RESULTS are obvious, spat fishing pays off by attention to a few little details!





KEEP THOSE HOOKS SHARP by honing them regularly . . .

from the sound the bugs made when they landed on the water in the midst of lily pads. There long bamboo poles were used with little attention paid to accurate casting or the playing of bass. But new fly rods began appearing in the North, with designs greatly influenced by fishermen of this state who played important roles in the early introduction of bug fishing in Pennsylvania.

From this it can be gathered that the development of the present bug lures and tackle was the result of efforts by a great many fisherman who were interested in better methods of fly fishing for this popular fish. It had taken nearly a century for the bug's fame to spread to the far reaches of thousands of anglers. With bug fishing so similar to fly fishing for trout, the tackle today is pretty much interchangeable. Though some advocate the use of longer, more stout rods for bugs, many use the shorter 8-foot rods of medium action. These lack the necessary casting power to drive the bulky, wind resistant bugs great distances, but they handle the smaller bugs well. These small lures of today actually creel respectable bass in waters that are heavily fished. The same rod can be used for both trout and bass fishing.

Both small and largemouth bass will rise readily to bugs cast near weed beds and the shoreline. It is hardly necessary to go into many details about this method of angling for they are well known to the majority of fishermen today. However, there is one point in bug fishing that should be stressed. It is that surface lures should be fished s-l-o-w-l-y for bass. It is the reason why some fisherman catch great strings of bass on these lures while others catch only a few under-size fish.

Consider for a moment being alone in a room during the late evening when everything is quiet and still. If an object, such as a nail or fish hook was dropped on the hardwood floor the noise would immediately draw your attention. In fact if your curiosity was aroused sufficiently you would investigate the source of the

sound and find the object that caused the disturbance.

The water within a lake is a silent place with no audible noise or vibration heard other than a swish of another fish swimming nearby, the hum of an occasional outboard overhead, the slap of a beaver's tail or the paddling of a large tortoise. Lakes and ponds are silent bodies of water and any splashing noise is heard a considerable distance by bass.

When a lure is dropped into the water, making a faint "spat" or popping noise, bass become curious and swim in the direction from where the sound originated. If nothing appears unnatural or frightening, the bass may investigate farther and swim beneath to watch the object. The instant the bug is moved slightly, giving the appearance of being alive and struggling, bass reason it is something edible trying to escape and in an instant grabs it.

On the other hand, consider the possible happenings when a lure is dropped into the water and retrieved instantly. Bass hear the sudden commotion but they become more alarmed than curious and instead of swimming toward the lure, bolt into the nearest weed bed to hide. These bug lures, both the soft hair bugs and the hard plastic or corkbodied bugs should be used s-l-o-w-l-y. Count to thirty or more, then after the rings around the bug have faded, twitch the rod tip slightly. Slow fishing takes patience, but it also takes a lot of bass for anglers!

Color does not play an important role in surface lures. Bass see the lure from below and are unaware of the color on the topside. They see only the white, yellow or black underside of the bug and it is from this angle they decide to take or reject the object. A white, yellow and solid black bug, made of deer hair or cork, are the three best colors for your fly box. The black is especially good at night for the bug can be seen silhouetted against the sky.

Of importance too in successful bug fishing is the natural way these bugs are used to suggest a real bait. Messinger's deer hair frog should be retrieved in such a manner that it suggest the slow alternate kicking and gliding motion of a swimming frog. The frog and Tuttle's deer hair mouse should be cast near lily pads, stumps and the shoreline where these creatures are normally found. The moth type bugs and those with hard bodies including the Wilder Dilg type feathered minnows can be used farther from the shore where the lake continues to remain shallow.

Big bass cruise in shallow water during the evenings, in water so shallow their dorsal fins are often exposed. Should a bug land nearby, the spat noise will attract their attention and sometimes they hit it the moment it lands! So get ready and be ready at all times when bug fishing.

Though it has taken more than a century to actually develop and perfect bass bug fishing, this method of angling in Pennsylvania's waterways now has a huge following and all are convinced that a more thrilling method of bass fishing has yet to be invented!

In this business of Conservation we won't
lose our shirts if we're not afraid to roll up
our sleeves!

How to Stay Safe Afloat

. . . . and Dry

Thousands of new boaters will be fitting out for the first time this spring. New to the sport of boating, they will be anxious to learn the right way and the safe way of conducting themselves on the nation's waterways.

KNOW YOUR BOAT. Every boat has its limitations. Learn what you can expect from your boat.

DON'T OVERLOAD. Seats do not indicate capacity. Two or three adults may be a full load under many conditions.

BALANCE YOUR LOAD. Distribute weight evenly in the boat—from side to side and from bow to stern.

KEEP LOW. Step in the center when boarding the boat or changing seats.

WATCH THE WEATHER. Head for shore before a storm breaks. If caught out, seat the passengers on the floor.

HEAD INTO THE WAVES. If waves are high, head your boat at an angle towards the waves at slow speed.

USE THE RIGHT MOTOR. Too much power can damage your boat—may even swamp it. Look for OBC recommended horsepower plate.

AVOID SHARP TURNS. Fast, sharp turns are hard on equipment—and sometimes on people. Take it easy

The booklet also warns boaters to slow down when near other boats or swimmers and to always carry a life preserver or bouyant cushion for each passenger.

With thousands of square miles of open water available to boating enthusiasts, it is sometimes hard to believe that boating accidents are possible. However, our waterways are only as safe as the people who enjoy them.

The Evinrude Boating Foundation has compiled a list of do's and don'ts which, if followed, will keep novices and "old hands" safe afloat—and dry.

DO—Check maximum horsepower rating of your boat as recommended by the Outboard Boating Club of America, or make certain your boat and motor are "balanced."

DO—Step aboard a boat as nearly to the center as possible. Keep lines taut or have someone steady the boat.
DO—Fill your tank carefully with a minimum of splashing and spilling.

DO—Carry one Coast Guard approved life preserver for every person aboard.

DO—Learn basic signs of impending weather changes. Always head for shelter at the first sign of an approaching storm or squall.

DO—Cross the wake of a large boat at a safe angle if avoiding it completely is impossible.

DO—Punch holes in both ends of beer cans so that they will not float. Sink them only in deep areas in lakes so that they won't harm swimmers and small craft.

DO—Slow down or stop before changing position or standing in a boat.

DO—Bring your boat into harbors and docks at low speed and respect the property of others.

DON'T—Buy a boat without regard to the load or horsepower the boat can stand safely. Never crowd a small boat beyond its obvious or stated capacity. The number of seats in a boat do not indicate capacity.

DON'T—Jump aboard. You may go through the hull. Don't step on the gunwale; you'll spread-eagle into the drink.

DON'T—Smoke while filling a gas tank.

DON'T—Ignore weather signs such as dark clouds gathering, rapid changes of temperature.

DON'T—"Run" from waves in a rain storm. Always keep your boat headed into large waves.

DON'T—Be a "cowboy" with your boat at any time. Don't take your boat too close to swimmers. Never "run down" another boat or a swimmer, "just for fun." Your boat has no brakes.

DON'T—Throw floating refuse overboard to drift on beaches.

DON'T—Ever stand upon or change seats in a fast-moving boat.

DON'T—"Cowboy" your boat around another craft through a crowded anchorage or at dockside.

C**onservation**

In Pennsylvania



Pennsylvania Host to 500 Outdoor Writers

Approximately 500 members of the Outdoor Writers Association of America were slated to attend the annual pow-wow which this year was being held at Penn State University, June 16 thru June 23 as announced by Dr. Alvin R. (Buzz) Grove of State College, president of the Pennsylvania Outdoor Writers association. This is the first time the Keystone State was host to the week long convention.

Seth L. Myers, secretary of OWAA, in his letter to his fellow members had these kind words to say of Centre county, headquarters for the convention: "It is endowed with several of the finest trout streams in the east. Through its broad limestone valleys flow such streams as Penn's Creek, Bald Eagle Creek, and Spring Creek, on which is located, 'Fishermen's Paradise'."

"In addition to these streams, comprising about 50 miles of fishing, there are another 120 miles of streams within the county that are regularly stocked with legal size trout. The Fish Commission reports that in this county alone, an average of 600 fish per mile were stocked in 1954, and I am told that the 1955 stocking was even greater."

Assisting Grove in his planning for the OWAA convention were: Jack Richards, sponsors; Henry S. Gates, prizes and awards; Bob D. Reed, caravans and entertainment; J. Allen Barrett, movies and handouts; Mrs. R. T. Lang of State College, ladies.

Charley Fox, souvenir program; Leroy F. Manning, fishing; Dr. R. D. Anthony, registration; and Charlie W. Stoddart, local arrangements.

Walleyes Now Fair Game in Pa. Waters

The walleye figured in another step toward liberalizing the Commonwealth's angling regulations.

Effective on May 30 this year, the popular game fish referred to variously as the walleyed-pike, pike-perch or Susquehanna salmon, will become fair game in all inland waters except two. The season will close on November 30.

The two exceptions to this new ruling adopted by the

Pennsylvania Fish Commission during its recent meeting at Bellefonte are the previously established seasons on Pymatuning Lake and the Lower Susquehanna River. South from where Route 30 crosses the Susquehanna to the Maryland border, the walleye season extends from May 1 to November 30. On Pymatuning, the opening date this year will be May 26. In subsequent years the latter date will change to coincide with the last Saturday in May.

Trolling Inland Waters Modified

The Pennsylvania Fish Commission during its recent meeting at Bellefonte further modified fishing rules and regulations in line with its policy of extending fishing opportunities in the Commonwealth. Trolling with the use of a motor was extended to all inland water where motorboats are currently permitted.

Heretofore, trolling from motorboats was allowed only on rivers, Conneaut Lake, Wallenpaupack Lake, Youghiogheny Reservoir, Pymatuning Lake from the main dam near Jamestown to the causeway near Espyville, and the Tionesta Flood Control Reservoir from the bridge at Nebraska, downstream to within one-quarter mile of the dam.

The new ruling does not apply to state owned lakes on which motors are not allowed, except those used by the respective agencies for management purposes. Nor does it apply to privately owned lakes whose owners choose to prohibit power driven craft.

Hickory Run Lake Restored After Flood Damage

The Pennsylvania Department of Forests and Waters today announced that Hickory Run State Park Lake, in Carbon County, has been restored and is rapidly filling. The flood of last August caused severe damage, resulting in complete draining of the lake.

"In cooperation with the Pennsylvania Fish Commission," Secretary Maurice K. Coddard said, "the De-



partment of Forests and Waters plans a restocking program which will once again provide good fishing in this very popular lake." Park Superintendent John J. McGinley has given assurance that all recreation facilities at Hickory Run State Park are in use and available to vacationists and visitors.

At French Creek State Park, Berks County, in cooperation with both the Game and Fish Commissions, the Pennsylvania Department of Forests and Waters reported a successful trapping operation of excess Canadian geese. Starting with two pairs, the number has grown steadily by the addition of wild stragglers and hatchlings, to the point where their numbers have created a problem of control. The captured birds will be used for stocking purposes by the Game Commission as part of their game propagation program.

A floating island on Lake Jean, Ricketts Glen State Park, was relocated after having spent the winter aground on the bathing beach. Located in Luzerne County, the lake of 254 acres developed the vegetated island from cranberry and huckleberry bushes, in addition to an accumulation of debris. A storm of last Fall, accompanied by high water, left the 200 foot island aground. Samuel S. Cobb, District Forester for the Department of Forests and Waters, developed a special bull-dozer attachment which was used in refloating the island. Motor boats were then employed to remove the floating mass to a new site and ultimate removal from the lake.

Noted Botanist Gets State Park Post

Maurice K. Goddard, Secretary of the Pennsylvania Department of Forests and Waters, has announced the appointment of Norman C. Fisher as acting Superintendent of Washington Crossing State Park. "As botanist for one of Pennsylvania's most historically significant state parks, Fisher has proven to be an exceptionally capable representative of this Department," Goddard commented in authorizing the appointment, effective June 2d.

For over eight years Fisher has supervised the nationally famous wild-flower preserve at Bowman's Hill, one of the Washington Crossing Park landmarks

of particular importance. Represented in the preserve is every wild-flower native to the Commonwealth of Pennsylvania. Botanists have hailed Fisher for his outstanding work in expanding and maintaining this sanctuary of all wild-flower species of the State.

Washington Crossing State Park encompasses an area "not to exceed 500 acres," as authorized by a Commonwealth Act of Assembly on July 25, 1917. Thousands of tourists each year visit the historic site of Washington's crossing of the Delaware River. The Park has proven especially interesting to student groups and botanists.

Utilities Fishery Tax?

We came across an idea in *Western Outdoor News* (Los Angeles) that seems to have merit. Columnist Joe Mears was discussing a proposal outlined by Wendell Snow, manager of the Seneca Fishing Club, to impose a one per cent tax on the manufacturers of hydro-electric power for the benefit of the fisheries affected by construction projects.

It seems to us, if the utilities people are going to be allowed to construct dams with little or no regard for the important recreational fisheries resources affected, then they should provide the money needed for the research and management activities to permit maintenance of the affected fisheries. In many cases multimillion dollar businesses are destroyed in favor of temporary business values of another kind.

There is another and more important fact. As industrialization develops, the need for recreation becomes even greater. The utility companies have a tremendous social responsibility to meet this problem. Establishment of a utilities fishery tax might be an excellent starting point.

ATTENTION..ALL..LITTERBUGS!!

"You CAN Take It With You."

Conservation

Across the Nation



Reciprocal Non-Resident Fishing Licenses

Pennsylvania's anglers frequently travel to other states on vacation or just seeking new streams. Though it may be near or far we herewith publish the cost of licenses in the other states as information for those seeking new pastures.

The Pennsylvania Non-Resident Fishing License Fee is reciprocal with other states, but in no instance is the fee to be less than two dollars and fifty cents (\$2.50).

Non-resident children twelve years of age and upward must have a license to fish in Pennsylvania.

State	Cost of License
Alabama	\$ 5.00
Alaska	3.00
Arizona	5.00
Arkansas	5.00
California	10.00
Colorado	10.00
Connecticut	6.35
*Delaware	7.50
Dist. of Columbia	2.50
Florida	10.50
Georgia	5.25
Idaho	12.00
Illinois	4.00
Indiana	3.00
Iowa	3.00
Kansas	3.00
Kentucky	5.00
Louisiana	5.00
Maine	8.75
Maryland	10.00
Massachusetts	7.75
*Michigan	4.00
Minnesota	4.00
Mississippi	5.00
Missouri	5.25
Montana	10.00
Nebraska	10.00
Nevada	5.00

State	Cost of License
New Hampshire	7.25
*New Jersey	5.50
New Mexico	8.00
New York	5.50
North Carolina	6.10
North Dakota	3.00
Ohio	5.25
Oklahoma	5.00
Oregon	15.00
Rhode Island	5.15
South Carolina	10.25
South Dakota	5.00
Tennessee	5.00
Texas	5.25
Utah	10.00
Vermont	5.25
Virginia	10.00
Washington	10.00
West Virginia	10.00
Wisconsin	5.00
Wyoming	10.00

In addition to the fees quoted above you should add to the cost of each license 10 cents for issuing agents commission.

*Delaware—additional charge for Trout Stamp .. \$2.10

Michigan—additional charge for Trout Stamp .. \$1.00

New Jersey—additional charge for Trout Stamp \$5.00

Trout Stamp not required on five day tourist licenses.

Liberalized Fishing in Iowa

According to the Committee on Conservation in its Report to the Iowa Academy of Science appearing in the Academy's *Proceedings* for 1955, the vastly increased fishing pressure of recent years has not reduced standing crops of fish in any of the lakes, as shown in population surveys, creel censuses and bottom food fauna tests. Recent relaxing of regulations permitted a larger harvest of fishes that formerly died of old age.



Quality vs. Quantity

Plans are now being made for improving the quality of trout fishing in southeastern Minnesota streams, Director James W. Kimball announced today. He pointed out, however, that catching of larger trout also means catching of fewer trout since any stream will feed only so many pounds of fish.

Production of trout for stocking this fall in southeastern streams will be increased from 12,000 to 18,000 fish. The increased production will allow fall stocking of 30 per cent of the number of fish in the yearly stocking quota in 17 southeastern streams where surveys indicate fall planted trout have best chance of survival. The fall-stocked trout will weigh 3- to 4-to-the-pound in contrast to 7-to-the-pound fish planted in spring. To provide fish for fall planting, some stocking will have to be curtailed on some of these streams this summer.

Kimball pointed out that although fall stocking produces larger fish for spring fishing, in some years of severe winters and spring floods fall-planted trout suffer heavy losses. Spring planted trout, although smaller, provide a higher return to the angler and more certain fishing. It is, Kimball said, a question of quality versus quantity of fishing. In normal years, he said, planting 30 per cent of the stocking quota in the fall can be expected to result in about one fish in nine taken by spring fishermen being a larger fish that has wintered in the stream. However, because of wintering loss, the total number of stocked fish caught by anglers can be expected to be about 15 per cent lower than if the entire quota were planted in the spring.

According to Kimball, a combination of fall and spring stocking of trout is feasible only in streams with a good flow of spring water throughout the winter. Fall stocking of trout is usually unsatisfactory in streams with low or irregular winter flow or where there is a large population of wild trout, such as in the North Shore streams. Even in our better southeastern streams, Kimball said, it seems unwise to jeopardize fishing in some years by stocking heavier than 30 per cent of the total quota. We should not, Kimball said, put all our trout fishing eggs in one basket.

Public Misunderstanding Stumbling

Block to Conservation Gains

Every state has an organization dedicated to making the most of outdoor resources in the face of other interests competing for prior public consideration. These agencies are trying to apply the best of technical information within the framework of public acceptance.

No state has yet come forward with any claim to perfection and most of them acknowledge the handicap of public misunderstanding, slowness in accepting demonstrated facts and the tendency to downgrade long-range values as against prospects for immediate but minor gains.

Wisconsin gave full recognition to the public's place in the conservation picture two decades ago with the institution of the Conservation Congress which represents the people of all counties who care to participate.

Except in states of low conservation interest where few care as to what is done about the outdoors, states make varied efforts to interweave public opinion by hearings or by asking for club recommendations. From time to time Conservation Director L. P. Voigt is asked by officials of other states as to his views as to Conservation Congress functionings. They are none too happy about their local functionings and see prospects for improved operations with something along the line of the Wisconsin Congress system. Wisconsin is the only state with an official, locally elected consultation service. As yet Director Voigt has had no suggestion from anywhere as to a better system.

In general states with a low conservation interest are the first to adopt conservation innovations. They have no worries about acceptance by the public that doesn't care what is done. On the other hand they lack public help in advancing conservation beyond the limited reach of any public agency.

The greatest difficulty in selling the general public on the need for conservation is that nobody is absolutely compelled to buy it.

Shippensburg, Pa.
June 2, 1956

I would like to express my feeling regarding your recent stocking program. I feel that this is one of the finest steps that have been taken in the past several years. As for the Fish and Game Association here in Shippensburg, we are behind the program 100%.

Sincerely yours,
/s/ Harry R. Martin
628 Brenton Road
Shippensburg, Pa.

BLAIN HUNTING, FISHING AND FORESTRY
PROTECTIVE ASSOCIATION
Blain, Perry County, Pa.

June 7, 1956.

Pennsylvania Fish Commission
Harrisburg, Pa.
Gentlemen:—

Just a line to congratulate you fellows on the new mid season stocking program. I have fished one stream two days after it had been stocked and I found that the trout were distributed much better than in other years. I have helped to stock Shermans Creek for several years and every year we were getting more help and a poorer job in stocking. Too many fishermen would follow the truck until they came to a spot they wanted to fish and get a bucket of fish and dump them in one hole and fish them out.

As far as our local fishermen are concerned I have not heard one gripe about the present setup. I think you will find that the gripes come from the meat fisherman who makes a practice of following the fish truck every day.

Very truly yours,
/s/ John W. Hevel
Secretary

WHP—TV
Harrisburg, Pennsylvania

June 8, 1956.

Pennsylvania Fish Commission
Capitol Building
Harrisburg, Pennsylvania

Have been reading in our local paper the continued mention of Pennsylvania's trout stocking program.

Since the Commission operates in the public interest for the common good of all, there can only be one stocking program and that is one that does not divulge its secrets to a chosen few club members. It is my belief that the majority of the people who offer their services by assisting in planting these fish are doing so only to locate the good spots and then fish them out the next day. These men are not sportsmen in any sense of the word and deprive many more men and women of good fishing which they are equally entitled to.

I believe that a system of plantings through the season at more frequent intervals would discourage these "meat-fishermen" and insure a more consistent catch over the entire period. Mention should be made at this time that Commission activities on the stream should be kept confidential so that all may have equal opportunity to share in the natural wealth of the state.

Sincerely,
/s/ Ray Schwarz
Director, T. V.

Gentlemen:

We wish to advise you that the Tri-County Fish & Game Assn., representing several hundred members located in and around Pottstown, have gone on record as being strictly opposed to having the Octoraro Creek changed from a cold water stream to a warm water stream. It seems to our members that we have little enough water for trout fishing in this part of the country, to take any away.

Then, too, we are wondering what action has been taken toward the establishment of a public fishing lake in lower Chester County. We understood that there was an attempt made by some of the Cluhs in the other end of the County for a good sized lake and we wish you would please let us know what has transpired, if anything.

These are quite a few important questions and the citizens of this community would appreciate an answer. Even though you do not know the answers, we are sure you can direct us to the proper party and we would appreciate some kind of an answer.

We hope you will give this letter your prompt attention and that we can have a prompt reply.

Respectfully yours,
TRI-COUNTY FISH & GAME ASSN.
Alfred H. Bewley
Chairman—Fish Committee

Dear Mr. Bewley:

In reply to your letter of April 7, evidence in our files prove that the Octoraro Creek was improperly classified as trout water, that harm to the bass fishing has resulted from the plantings of trout in this stream.

When trout are planted in a stream which is too warm for them and is better adapted to bass, any survivors from the plantings cannot survive through another season and in fact may be killed off in any sudden rise in water temperature, which sometimes occurs early in the trout season. Early fishing for trout on such streams results in the hooking and almost inevitably killing of bass which cannot be legally taken until July 1. This represents a definite damage to an important resource which should not be subject to such wasteful exploitation. It is the intention of this Commission to determine, as soon as possible, what the

R. STANLEY SMITH, president of Pennsylvania Fish Commission officially opens the Northeast Wildlife Conference May 14, in Pittsburgh's William Penn Hotel. Officials including management officials, biologists, research specialists and administrators were present at the sessions.



waters of this community are best suited for and to manage them in the future in accordance with these facts.

Two lake sites are under investigation in your general area at the present time and we are hoping that a suitable site can be found in this part of the state. We cannot promise that such a lake could be built, soon, because our funds are all committed for the coming year and 1957 would be the soonest that anything could be done, assuming that we would have the approval of the members of the Commission.

Sincerely yours,

Albert S. Hazzard
Asst. Executive Director

Casting Rods & Reels Upon the Water

Mr. Dean Davis, Fish Warden,
Punxsutawney, Pa.

Dear Dean:

A co-incident: You remember last Summer when you were telling me about finding a fishing rod and reel; you advertised it, and it belonged to a young man from Stump Creek.

Of course he got his reel and rod back. A short time later I lost a \$40.00 outfit, on East Branch, near the bridge, and this same boy found it. I advertised losing my outfit giving full description. A few days later this same boy's mother wrote me a card stating that her son had found my outfit. When I went for the rod and reel I offered them a reward and they refused it. Then they told me about the boy losing his outfit and you returning it without cost, so they felt they shouldn't accept anything either.

Thanks to you I got my rod and reel back. It goes to prove there are still good folks around.

J. W. Mullins

Corsica, Pa.



Dear Editor:

The Harrisburg Hunters and Anglers Association wish to express their appreciation for your cooperation and assistance to Mr. John Bistline, Chairman of our Big Fish Contest, and for the picture of the winners of the recent contest in your March issue of the PENNSYLVANIA ANGLER.

We also wish to commend you and your associates for a wonderful magazine, which is thoroughly enjoyed by all who read the ANGLER.

Sincerely yours,

Jack F. Meighan, Secretary

Thank Ye!

BERNARD S. HORNE, Pittsburgh, former member of the Pennsylvania Fish Commission receives Honor Award from **Perry E. Walper**, Chairman, Conservation Committee, Allegheny County Sportsmen's League. The award reads: "to Bernard S. Horne, as President and member of the Pennsylvania Fish Commission, his vision and accomplishment began the program of lake and pond construction which continues to this day. For his service to the people of the Commonwealth in expanding and assuring the sport of fishing to ourselves and our posterity we can but express our sincere appreciation." (Given this 15th day of May, 1956)



PENNSYLVANIA

ANGLER

PENNSYLVANIA FISH COMMISSION

P 38,31
1.6



JULY 1956

Water needs for Recreation critical

By **RICHARD STROUD**

Executive Vice-President, Sport Fishing Institute

ONE of the best places to start is also nearest home. The most essential commodity for recreational fishing is water. Unless we get moving right now, we may run out of water for this purpose and in a hurry. For some unknown reason, representatives of the U. S. Soil Conservation Service are beating the drums for the lawmakers in many eastern states to substitute western states doctrine of prior appropriative use of surface water resources in place of the long established one of riparian rights.

Essentially, the western doctrine holds that the first man to grab the water gets it—and may the devil take the hindmost. Eastern riparian rights doctrine holds that a water user shall pass the water on downstream unimpaired in quantity and quality. The latter has become generally modified to allow *reasonable use* to the extent that the water is not *materially* impaired for downstream users. It is a sound evolutionary change.

Irrigation in eastern agriculture poses a new problem of material consumptive use of water supplies. Already, at least 18 states east of the Rockies have water study commissions currently at work drafting proposals for revision of the state water laws.

The movement toward increased “consumptive” use of water must be carefully regulated if eastern public sport fishing—a “non-consumptive” use of water—is to survive. We are not opposed to overhauling our water laws. They probably need it. But the western principle of prior appropriative use of water is a serious menace to angling and other important forms of outdoor recreation.

The doctrine of riparian rights, though old, has been a valuable weapon in the anti-pollution fight. Without it, sport fishing might well have disappeared from many eastern states.

If outdoor recreation is to be maintained or expanded in the next decade conservationists will also need to become aggressive. They will have to see to it that they occupy prominent places on the state water study commissions. And they must see to it that recreation is firmly and clearly established in law as a primary beneficial use of water resources. Otherwise, the special-

interest water users and patronage-minded legislators will sell outdoor sports “down the river.” Only there’ll be no river, just an empty ditch!

The proper action is to join up with the water study groups and indoctrinate them with the vital need for outdoor recreation. But this strategy generates a further responsibility to determine adequate standards of water quantity needed to accommodate increasing recreational demands. We already have acceptable standards of water quality. They alone are not enough to meet this new challenge in the face of increasing consumption of water supplies by agriculture and industry.

This is one of the reasons that make it imperative to plan resource use with conditions for people, rather than for fish or game, uppermost in mind. For example, we can readily assure that well-aerated pollution-free water will flow down the creek by enforcing present-day quality standards. Yet the quantity of water might amount to a comparative trickle. The water in a fluctuating reservoir might be pure as the driven snow—and cover no more area than the skating rink at Rockefeller Plaza.

Under these circumstances some *fish* could survive, *fishing* for the general public could not. Remember, too, that water sports include boating, water skiing, and swimming, in addition to fishing and hunting. Indeed, fishing has become inseparable from boating on many waters and these sports are growing hand in hand. The Outboard Boating Club of America has indicated that over 65 per cent of all motors and boats sold are used primarily for fishing purposes.

How then should conservationists define adequate standards for water quantity? Certainly not on the basis of fish habitat needs alone. They must be set in consideration of human habitat needs for outdoor recreation which the fish and game make possible. We’d better be clairvoyant here—and soon. If not, we may wake up and find ourselves in the role of the Ivy League Sunday Quarterback whose Alma Mater lost on Homecoming Day. It will be too late then.

Part of an address given at the 1956 Northeast Wildlife Conference, Pittsburgh, Pennsylvania, May 14.

COMMONWEALTH OF PENNSYLVANIA

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GOVERNOR

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Conneautville, Pa.; Phone 3033

Southwest Region

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Art by Bob Cypher

George W. Forrest, Editor

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A Catfish Saga

By C. ROBERT GLOVER

Chief, Conservation Education Division,
Pennsylvania Fish Commission

*Photos by Kenneth Haupt,
Official Photographer*



HANDLINGS, first in a series experienced by the catfish in transfer from their native waters in the lower Delaware River to the inland waters of the Commonwealth.

PARTLY because it was a new program, partly because the list of approved waters was relatively brief and partly because there were fewer to be gotten, the take of eatfish from the Delaware River near Torresdale, for transfer to suitable inland waters by the Pennsylvania Fish Commission was a mere 30,000 or so back in 1940.

Last year approximately 200,000 "eatties" were involved in the operation, with the likelihood that in 1956 a similar number will be transferred.

That is going to leave a lot of Pennsylvania's fishermen cold. But there are still a lot to whom the catfish is a noble creature. The latter know how to handle him from hook to skillet. They are delighted by the uninhibited manner in which the bewhiskered member of our waters' gentry announces himself when he puts on the feed bag, especially if his dinner is attached to a hook on the other side of those fishermen's bobbers, nipsies or rod-tips. And

there are even some who will contend that a good-sized channel cat tied tail-to-tail with a rainbow trout of equal weight, will win the tug-of-war fins down in any kind of water. And when it comes to eating, they will place the eatfish just a shade behind the walleye and yellow perch as a piscatorial delicacy, while they place the trout well down on the preferred-for-eating list.

Many a dyed-in-the-wool eatfish devotee, whether armed with a fishing rod or dinner fork, feels that most detractors, because of a lack of knowledge, are actually afraid of the critter. Not knowing how to handle him, not

knowing how to skin him, all that is left to salve their egos is to heap scorn.

It is not the purpose here to take sides. But before describing the manner by which all those 200,000 catfish get from the lower Delaware River to the state's inland waters, a bit of information on his "weapons" and how to avoid the pain they can inflict, should be an acceptable deviation from the main theme, and may just win a few friends.

Scientists have only recognized since the early 20's that all catfish are equipped with poison glands, one at the base of each of the pectoral fins, the third at the base of the dorsal fin. Previously it was believed that only the madtoms—a smaller member of the catfish family—were thus armed, and that the injury inflicted by the spines of the larger catfish species was simply a mechanical one—a puncture wound.

The glands are drained thru a pore which allows the poison to stream back over the fish's body. The spines, when folded against the body, are in contact with those pores, thus

bathed with poison which enters the wound inflicted by the spine. The wound is temporarily very painful, but not considered dangerous. Contrary to the conception of many, there is no hypodermic action such as occurs in the bite of a venomous snake.

Let there be no doubt, however, that catfish are venomous fishes. Nevertheless, these glands in no way affect the flesh of the fish, as they are removed with the fins and skin when in preparation for the pan.

But whether cleaning or removing from the hook, all members of the catfish family should be handled carefully to avoid unpleasant experiences.

Experienced hands turn the weapons of the catfish to their own advantage. To them the spines are a built-in handle, as depicted in the accompanying illustration captioned ". . . one of the men."

To unhook a catfish, a right-handed person would transfer it to the left hand with the belly toward the fork of the first and index fingers and the fingers under the pectoral

STOP NO. 2 of the catfish "DP's". Out of the wells of the boat into which trap nets were emptied and into holding barges anchored in the current, well off-shore, prior to counting and sizing. Ship in background is a Panamanian freighter headed for docks of the vast new United States Steel plant at Morrisville, some 20 miles upriver.





MEN SEPARATED FROM THE BOYS here, those under the minimum size desired by the Commission for stocking purposes are returned to the river. Those retained are counted upon transfer to the hold-for-shipment barge which again is anchored in the current, awaiting the arrival of the stocking truck.



spines, the dorsal fin and spine therefore being on the outside. The thumb, meanwhile, is pressed against the lower lip. In that fashion, the catfish not only can be held firmly, but it leaves the other hand free to extract the hook and "string" him or drop him into the bag.

Were this to have been written just a year ago, of the catfish netting operation on the Delaware River, it would have been of a routine performed entirely by personnel of the Fish Commission. This year, however, the netting phase of the total effort is being done by commercial fishermen under contract. The sorting is under the supervision of a Commission representative, and delivery by the Commission's own tank trucks. The new system adds up to the same thing on the receiving end, meanwhile taking a lesser bite out of the fishermen's dollar on the procurement end.

It's the procurement end that is most intriguing. Yet it's simple and successful only because the catfish cooperate, for reasons no one seems to understand, by going into the nets of their own volition, and in amazingly large numbers.

The netting seasons are confined to the mid-spring and mid-fall weeks. And though it would be possible to take the "cats" all through the summer, they not only move better early and late, thus are more likely to enter the nets, but they can better survive the handling. Even so, the lack of mortality despite the crowding in the holding barges and tank truck of thou-

sands of catfish, each armed with three built-in daggers, is a criterion of their toughness.

Equally hard to understand is why, with such apparent abundance, a hook and line fisherman plying his art in the same area is lucky indeed to take more than "a dozen or so" in a session of sittin'.

The nets are of the "fyke" variety, the opening of which is adjusted by a draw string that allows fish only up to the 14" Commission-set maximum to enter. They are baited in no way.

These nets are attached to loops spaced every 25 feet on a $\frac{3}{8}$ -inch steel cable anchored on the river bottom, parallel to the flow, by two blocks of concrete.

Except on rare occasions when a second trip is necessary to fill an order, the wee hours of each morning during the netting seasons are

punctuated by the purr of outboards pushing the fishermen and their craft out onto the river's darkness. Those fishermen know their river. They unerringly cut their motor's speed at the proper location and seldom fail to connect the trolled grappling hook with the anchored cable or one of its attached nets on the first pass.

The depth at which the nets are set may vary between 15 and 25 feet. Enough slack is left in the cable to allow the fishermen to lift it and the attached nets into the boat in their turn. The number of nets employed depend upon how well the catfish are "running" and upon how many the fishermen feels will be necessary to fill the "well" or fish box of his boat.

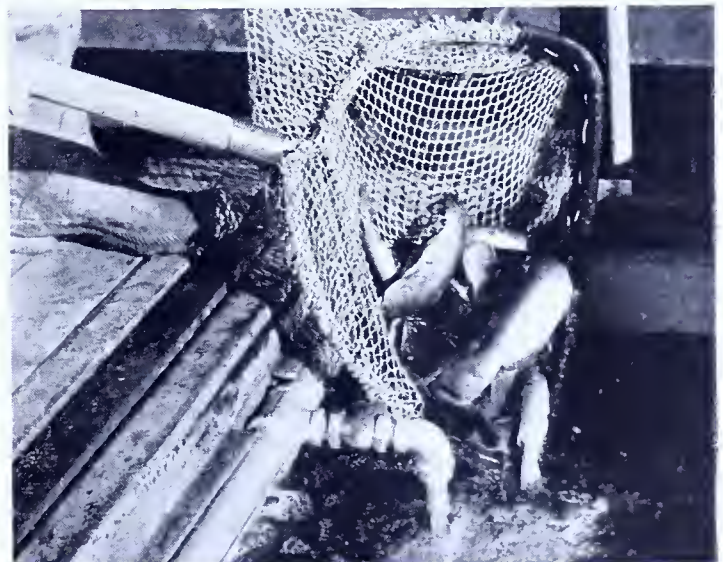
In that process, the boat is pulled along the raised cable from one net to the other, each being emptied into the well on the way.

It is interesting to note that progressively fewer trips to the nets and fewer nets have been necessary in recent years—another indication that Pennsylvania's clean streams program is paying off. For the same reason along with more catfish, despite netting for both restocking and market purposes, the lower Delaware is seeing the reappearance of aquatic vegetation that due to pollution has been absent for several generations. While the fishermen are delighted with the increasing abun-

ONE OF THE MEN . . . a fifteen-inch brown bullhead.



of the hold-for-storage barge



INTO an aerated tank aboard the stocking truck and on their way to one of the state's several thousand "approved" catfish waters.

dance of catfish and other species in those waters, they are not sure about the vegetation. The grasses could complicate their netting operations.

With a full load that may be as many as 2,000 catfish, and the haul may include brown bullheads, the yellow bullhead and channel catfish, the fisherman returns to his base of operations for step number two of his job—that of sorting and counting. The Commission wants only those from eight to fourteen inches. The opening in the net takes care of the maximum size. Those under the minimum are returned to the river. During the sorting, with the keepers being flipped into the holding barges, the counting is done.

As many as four thousand catfish are held in each barge pending the arrival of the stocking truck, at which time the “catties” are loaded for their new destination, which may be any one of several hundred lakes, ponds, quarry or ore holes or streams throughout the Commonwealth.

From this point on, it is all up to the fishermen who, whether they view this rough and tumble character with delight or trepidation, will admit after experiencing his antics, he is anything but a sissy.



FINAL DESTINATION!—it takes only one of these be-whiskered gentlemen to make one boy happy!

Give Your Son a Day!

What shall you give to one small boy?
 A glamorous game, a tinsel toy,
 A barlow knife, a puzzle pack,
 A train that runs on curving track?
 A picture book, a real live pet . . .
 No, there's plenty of time for such things yet.
 Give him a day of his very own—
 A walk in the woods, a romp in the park,
 A fishing trip from dawn to dark,
 Give the gift that only you can—
 The companionship of his Old Man.
 Games are outgrown, and toys decay—
 But he'll never forget if you "Give Him a Day!"

By **JOHN SULLIVAN**

Deputy Attorney General, Commonwealth of
Pennsylvania

“New Look”

in pennsylvania

legislation

ON MAY 22, 1956, Pennsylvania's General Assembly shut up shop after sixteen months of debate. Obscured by the uproar over taxes were several significant and possibly far-reaching changes in the laws dealing with fish and fishing.

One of these was the new farm pond law, House Bill 1987, introduced by Assemblymen Breth, Kornick and Rovanssek, which became Act No. 416 when signed by Governor Leader on March 21, 1956.

The act authorizes the owner or lessee of a farm, his family and persons residing or regularly employed upon the farm on which is constructed an artificial pond holding water, the source of which is wholly within the limits of such farm or from waters in which there are no game fish, to fish without a license at any time in such pond and take fish from it without regard to closed seasons or creel limits. Further the possession of trout or bass thus taken may be in possession and/or transported from the farm upon the written certification of the land owner that those fish were caught as provided for in the Act.

Another notable innovation is presented by

Senate Bill 264, which authorizes and provides for the regulation of fee-fishing ponds and lakes. Sponsors of this bill were Senators Dent and Koprivier. It was signed September 7, 1955, and is now Act No. 149.

An innovation in license legislation, in keeping with measures in other States, is House Bill 1313 by Representative Kornick, in which Pennsylvania for the first time establishes a reciprocal non-resident fishing license fee. This is Act No. 106, signed July 27, 1955. It also increases the tourist license fee from two dollars to two dollars and fifty cents, and provides for a trout stamp where such stamp is also required by the applicant's home state.

Noteworthy also is the movement of the bowmen into the fishermen's haunts under Act No. 405, sponsored by Senators Dent and Berger, which was signed March 19, 1956. This authorizes use of the long bow on carp, and was fully discussed by Bob Glover in the May issue of the **ANGLER**.

A helpful change in the closed season provision was made in the Breth-Kornick-McCann bill, House 830, signed July 27, 1955, as Act No. 99, which authorized fishing in the month prior to trout season in streams not stocked with trout. Previously fishing had been permitted only in non-stocked rivers, ponds, lakes, and streams emptying into Lake Erie north of State Highway Route 5.

Korean disabled veterans were granted free fishing licenses under the Pechan Senate Bill 114, Act No. 22, which was signed May 11, 1955. Finally, to complete the record, Representative Frank's House Bill 1857, signed February 28, 1956, as Act No. 363, authorizes refunds of fees, fines or other money erroneously or unjustly collected.

Out of four House bills and one Senate bill to amend the motorboat laws only one, limiting motorboats to seven and one-half horse-

power on Quaker Lake in Susquehanna County, was enacted into law. This was House Bill 459, introduced by Representative Westcott, which was approved by the Governor October 22, 1955, as Act No. 205.

The box score on fishing bills shows 22 bills introduced in the House, of which only four became law. The Senate did much better, with six bills introduced and three successful.

The bills that failed are of interest in indicating the trend of legislative thinking. In the House, six of these would have given free fishing licenses to veterans, blind persons, and the aged.

The remaining twelve House bills that died on the vine covered a variety of subjects. Two dealt with the authority of fish wardens to make arrests for violations of the clean streams and other laws, one with creel limits and closed seasons, one with devices for catching fish and

another with devices at dams. There were two farm pond bills. One bill, similar to Act No. 99, dealt likewise with fishing in streams not stocked with trout. One would have permitted aliens to obtain fishing licenses, another would have established a fish hatchery in Luzerne County; yet another would have permitted the public to observe the stocking of fish. One bill would have excluded from the Fish Law regulations the operation of fishing tanks at sportsmen's shows.

The unsuccessful Senate bills provided for alien licenses, for establishment of a fish hatchery at Lake Wallenpaupack, and for free licenses for mental patients.

In the motorboat field, all four of the bills that failed, three in the House and one in the Senate, dealt with the horsepower of motorboats on Pymatuning Lake and with restricted areas.

Sissy Life Jackets!

How long, how long, are the American people going to continue to drown themselves and their friends by refusing to wear life jackets while boating and fishing? With the increase in popularity of water sports, the drowning records are shooting up at an alarming rate. In proportion, they are much higher than the auto accident casualties.

The sad commentary on most of the drownings is that they easily could have been prevented. In almost every case where one reads of such a tragedy, there were cushions and life jackets found floating on the water where the disaster took place.

When accidents happen, they happen quickly. There is no time to put on a jacket, and seldom is there time to grab a cushion. Anyway, who can do much swimming while hanging on to a cushion?

Life jackets not only are important. They are sensible, comfortable and easy to wear. Mostly when they are not worn it is because folks have the silly idea that it is "Big Injun" not to wear them. Nothing could be more childish.

Going boating without a life jacket might be termed the American version of Russian roulette.

—from Trails and Creels
by George P. Sheffer

Planning



for the **R**ecreational Use of Water

By John H. Sieker

Chief, Division of Recreation and Land Uses
U. S. Forest Service

Reprinted from Yearbook of Agriculture 1955
and Mississippi Game & Fish

Many popular recreation areas in the United States owe their attractiveness to water—Niagara Falls, Lake Tahoe, thousands of lake-side resorts, and an uncounted number of streamside picnic spots.

But because of inadequate planning, other uses of water often conflict with the recreational use. The recreational value of water can be impaired by pollution. Diversion of water for industrial or irrigation uses may often destroy recreation values. Unless better multiple-use planning for land and water is practiced, many existing or potential recreation values will end.

Watersheds should be protected from erosion and should be managed so as to provide a maximum of clear water with a minimum of flash runoff and silt. The stream banks and shores of reservoirs should be free of all unnecessary developments. But that does not mean that all

recreational use has to be excluded. Under present conditions, few cities can dispense with filtration and chlorination; if those installations are properly engineered and supervision is adequate a city watershed can be used for picnicking, boating, and fishing without endangering the health of the citizens. It can thus do double duty.

The returns in human health, welfare, and happiness should more than offset the cost of eliminating industrial and sewage pollution. The recreation potential of the land along many rivers, such as the Ohio, Cumberland, Hudson, Potomac, Mississippi, and the Missouri, would be enormous if they were not polluted.

As a result of single-purpose thinking, recreational values of water may be unnecessarily destroyed or impaired by power projects or by flood-control and irrigation reservoirs. Hundreds of miles of fine fishing streams have been flooded by reservoirs. A reservoir, when full, may have as much recreational value, although of a different kind, as the stream it flooded, but often the reservoir is only partly filled during the height of the recreation season. A half-full reservoir with wide mud flats is not pretty. Its fish production capacity is unusually low because the fluctuating water level destroys fish food and the higher water temperature at low levels may be detrimental to game fish.

Many miles of good fishing streams are dry in the summertime because their water is diverted for irrigation and power. Good recreation areas may thus be destroyed below a reservoir or diversion weir in addition to recreation values destroyed through flooding by the reservoir itself.

The American economy will require increasing numbers of power dams, irrigation reservoirs, flood-control projects, and diversions of water for municipal or industrial use. But there will be an increasing need for outdoor recreation. The importance of recreation requires that consideration of recreational values enter into the overall decisions as to the use of water. Recreational values may outweigh the value of proposed industrial use in some places. Often some of the recreational values can be preserved by appropriate planning and management. Recreationists have the right to demand that realistic values be placed on water for recreation and that all plans for its management consider those values.

An acre-foot of water with a 100-foot head may be worth 4 dollars for power and another 5 dollars for irrigation and the kilowatts have been extracted. A good-sized reservoir might hold half a million dollars worth of water, based on those values.

Suppose, though, that such a reservoir flooded 15 miles of recreation streams and that the diversion dried up another 10 miles of stream below it to the extent that fishing and other recreation were destroyed. If that 25 miles of stream were capable of providing 250,000 man-days of recreation annually before the reservoir was built and the reservoir, because of fluctuating levels, afterwards attracts only 50,000 visitors a year, what would be the value

of the recreation lost? At a dollar or two a day, it would be more than half the value of the water for irrigation and power.

An impoundment does not necessarily have to take all the water from a river. In several instances where impoundments have been made within national forests, the Forest Service has required power companies to release not less than 50 second-feet during the high-recreation months, June, July, August, and September. Fifty second-feet is approximately 99 acre-feet a day. That means releasing water worth 2,770 dollars a week for power.

If 10 miles of recreation area and fishing stream can be maintained for 2,770 dollars a week, how many people must use it to make it profitable from a public-use standpoint? It would not be unusual for 10 miles of good fishing stream running through attractive forest to receive recreation use by 10,000 persons a week. Thus, if the recreation use were worth only 28 cents a day, the public would receive its money's worth. Most people would appraise a day's recreation at more than a dollar.

A careful weighing of the relative values of recreational and other uses of water may show that it is worthwhile to delay the drawdown of a reservoir so as to have it reasonably full during the peak recreation months. By a combination of flood storage during the spring and retarded drawdown until after Labor Day, many reservoirs could be managed to provide good recreation and fishing in summer. The loss in water for power or irrigation can be accurately calculated; the gain in recreational value likewise can be ascertained. Both should be appraised to determine what will bring the greatest total of values to people.

Litterbugs

A pox upon the Litterbug
 The careless he or she
 Who leaves a trail of garbage strewn
 Wherever they may be!
 They look upon a spotless town
 As a challenge to their art . . .
 A place where they must scatter dirt
 Before they can depart!
 The jail is much too clean for them
 When they are brought to task . . .
 A pigpen is the only place
 Where litterbugs should bask!

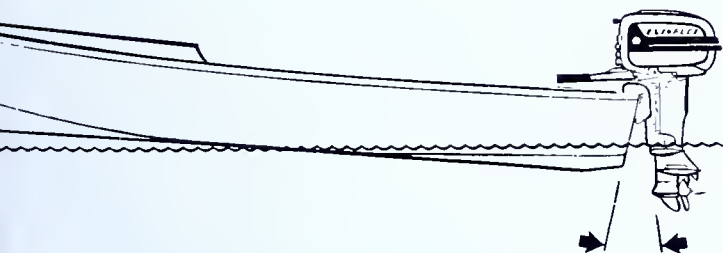
—Nick Kenney

watch the **A**ngle of **D**angle

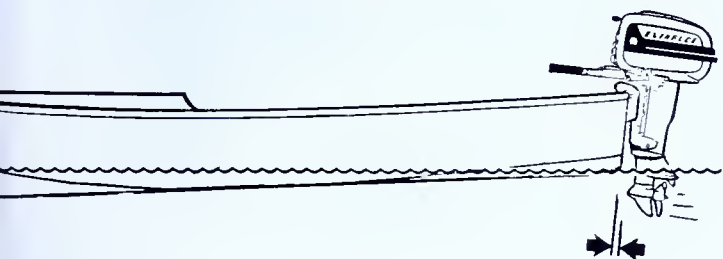
— when mounting motor

Courtesy Evinrude Outboard Motors

TOO MUCH ANGLE BOAT SQUATS



NOT ENOUGH ANGLE BOAT PLOWS



JUST RIGHT MAXIMUM PERFORMANCE



The warm spring sun heralds the approach of the boating season and with it comes time for mounting the motor.

A boat travels at greatest efficiency when it is 'planing.' This means that its outboard motor will perform more efficiently if its line of drive parallels the direction of boat travel. An improperly mounted outboard will cause the boat to plow or squat, wasting power and cutting speed.

Here are some tips on mounting the motor properly as prepared by the Evinrude Boating Foundation.

If you are alone, lay the motor down on the float or wharf where you can reach it easily after you are in the boat. Then set the motor squarely on the center of the transom and set up the bracket screws as hard as you can by hand.

As insurance against losing the motor if it happens to hop off the transom, pass a line or chain through a hole in the stern bracket, or around it, and then secure it to the stern lift ring, if your boat has one, or make it fast around the transom knee.

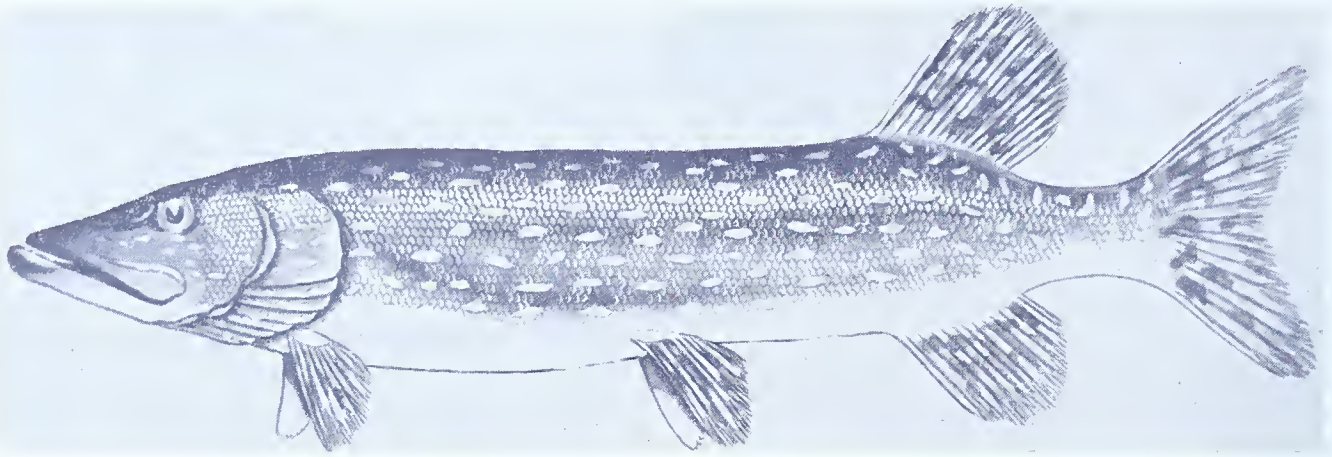
Boats built especially for use with outboard engines these days have transoms 15 inches high or 20 inches high and set at an angle of 12 degrees outward from the keel.

When you are setting the motor, be certain that it is in the proper running position—the drive shaft straight up and down, not canted in toward the boat or angled away from it.

If the drive unit is moved in too close to the boat, it will cause the boat to run with its nose down and tend to dig in. This makes for difficult steering. If the shaft is tilted too far out from the transom, the stern will squat, the bow comes way out of the water and your boat will not perform properly.

"Cavitation" is also a problem. You know the sound an auto makes when the clutch is disengaged and the motor is raced: sound and fury but no progress. A high transom will cause the same trouble—"cavitation"—when the propeller is too close to the surface and is unable to take a "bite."

Cutting a notch in the transom where the bracket fits is frequently the cure for this trouble.



PIKE (*Esox lucius*)

The Northern Pike is one of the most voracious fresh-water fish, often disliked because of its cannibalistic nature.

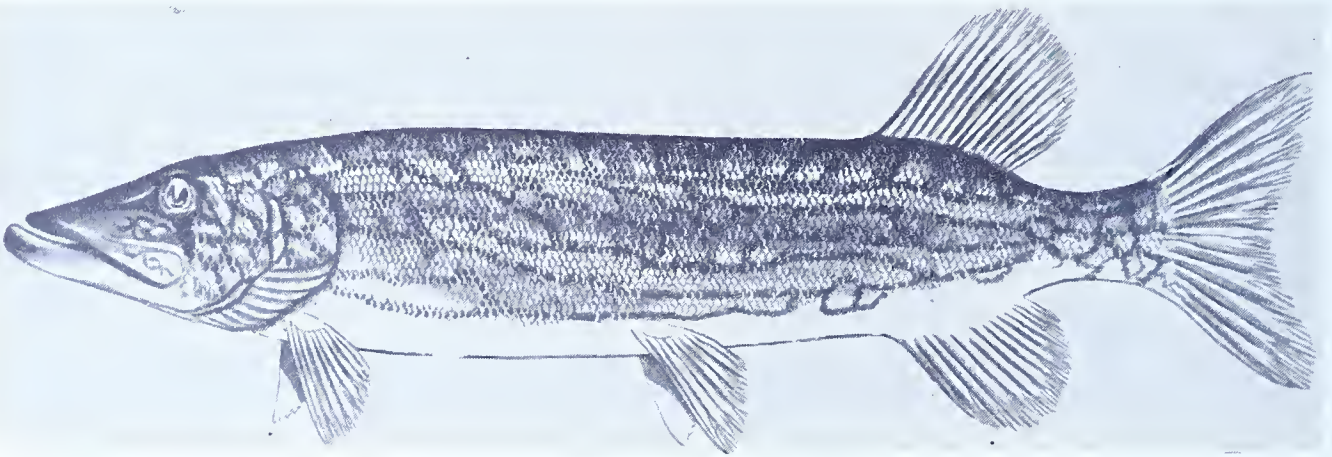
RANGE: Of world-wide distribution, inhabiting cold, fresh waters of the world. In North America it is found from Lake Champlain westward to the upper Mississippi Valley, and the Lake of the Woods, thence northward to Alaska.

CHARACTERISTICS: Over-all color varies from greenish cast to olive gray shading to a lighter color on lower sides, becomes yellowish white on belly. Body is profusely covered with lighter oval or bean-shaped spots and the fins are usually spotted with darker markings. The bean-shaped spots are quick way of distinguishing the Northern Pike but not always infallible. (For differences see Chain Pickerel) There is no foundation to the belief that Pike shed their teeth during hot weather. New teeth are merely nature's way of replacing ones which are broken or worn.

HABITS: A solitary fish, likes to conceal itself in sunken weed beds, around logs, lily pads and edges of rushes. In hot weather prefers deep holes and channels. From early spring until June, Pike migrate into shallow waters for spawning. They prefer soft bottoms and marshes but like other pike do not prepare a nest, merely drop eggs on bottom and fertilize them.

FOOD: A voracious feeder that consumes an estimated one-fifth of its own weight in food. Feeds on almost everything that moves including minnows, frogs, mice, insects and worms.

LURES: Spoons, spinners, plugs of all kinds, streamers, frogs, minnows and mice.



CHAIN PICKEREL (*Esox niger*)

The Chain Pickerel is the largest member of the pickerel tribe, the smallest member of the pike family. Locally known as Eastern pickerel.

RANGE: From Canada south to Florida, thence west to Texas and northward through the Mississippi Valley.

CHARACTERISTICS: Is a dark greenish-black along the back, shading to a brownish-green along upper portions. This fades into a greenish-yellow on sides and belly. A chain-like pattern is formed by a network of dark lines along the sides; the fins unmarked; usually a vertical black mark below center of eye on forward part of cheek. Both cheeks and gill covers are entirely scaled, distinguishing it from the Northern Pike on which the lower halves of gill covers are not scaled and the Muskellunge which is barren of scales on the lower halves of both its cheeks and gill covers.

HABITS: Has all the savage characteristics of the pike family, is a carnivorous fish. Like other members of the pike family, it usually seizes its prey in the middle of the body, after crippling it, will release it, only to turn and swallow it head first. Pickerel are found in streams, rivers and lakes, preferring little current, lurk under logs, lily pads or any good cover. Usually spawn in the early spring but there is evidence they also spawn in the fall as well. No nests are prepared, spawning takes place in still water over a soft bottom. Male and female swim side by side and eggs are fertilized as they fall to the bottom. Eggs are deserted as soon as laid and in a week or two, depending on water temperatures, they hatch, the young start their search for food.

FOOD: Small fish, minnows are principal diet but will feed on any object that moves such as frogs, worms, insects, crawfish, flies, mice, even fish of its own kind.

LURES: Spoons, flies, spinner and fly combinations, plugs, minnows, frogs.



MUSKELLUNGE (*Esox masquinongy*)

Largest member of the pike family and one of the largest of the fresh water fishes.

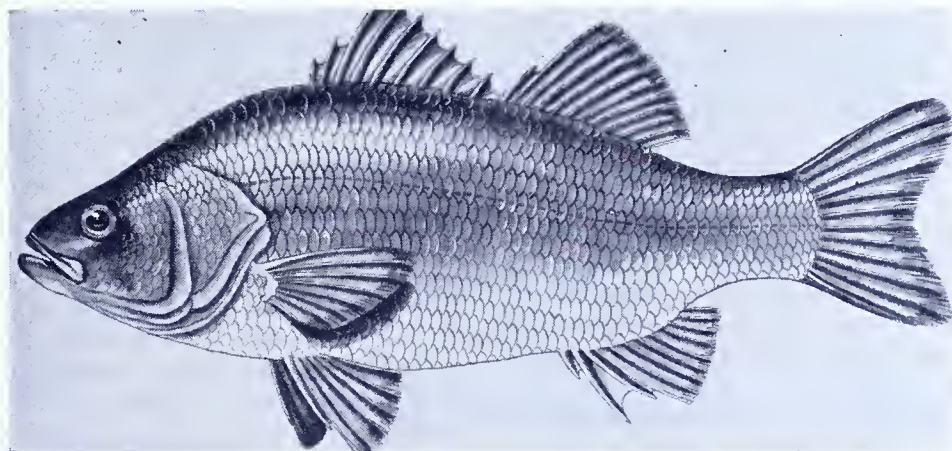
RANGE: From New York and Vermont west through southern Canada and the Great Lakes Basin to northern Michigan and Wisconsin, also in the Mississippi Valley and northward.

CHARACTERISTICS: Frequently confused with other members of the Pike family but readily distinguished by the distribution of scales on cheeks and gill covers. The Muskellunge has scales on only the upper halves of the cheeks and on the upper halves of the gill covers. Lower halves of cheeks and lower halves of gill covers are devoid of scales. The Northern Pike differs because its cheeks are completely covered with scales; but its gill covers, like those of the Muskellunge, do not have scales on the lower portion. The cheeks of the Pickerel are entirely scaled, so are its gill covers. The back varies from dark slate gray to a greenish-brown. This darker coloration on back blends into a silvery gray on the sides, but at times the entire body has a brownish-olive sheen. It has dark spots and irregular shaped markings which appear on the body and fins from gill covers to tail.

HABITS: A solitary fish, like the Pike but temperamental, will often spurn food and ignore all baits or lures. It has the annoying habit of stalking its prey like a cat on a mouse, then instead of swallowing it the minute it is seized, will hold it in its mouth for a long period before doing so. Principally found in larger bodies of water but will frequent streams, lying among submerged objects, weeds and underwater reefs, the edges of channels and sand bars. They spawn in the spring, usually in April or May. Both male and female move into shallow water to spawn over a soft bottom. Practically no preparation is given the nest and eggs are scattered more or less promiscuously on the bottom. Depending upon the size of the fish as many as 300,000 eggs may be produced in a single season. They hatch in from 10 to 15 days, provided water temperature is not below 50 degrees. No protection is given the fry who start to forage for themselves as soon as the yolk sacs are absorbed. They are carnivorous from birth to death.

FOOD: Principally, they feed upon other fish such as suckers, perch, minnows and even its own kind. Will also take frogs, mice, squirrels, snakes and almost any moving object that strikes its fancy.

LURES: Plugs, spoons, spinners, bucktail combinations, also surface plugs and bass bugs, minnows, frogs.



WHITE PERCH (*Morone americana*)

The White Perch is a member of the bass family, rather than the perch family, and is one of the larger panfishes. Often called Silver Bass or Silver Perch.

RANGE: From Nova Scotia to South Carolina and east of the Alleghenies.

CHARACTERISTICS: Sides are brilliant silver, often with a greenish cast on back and pale streaks along sides. It has a smaller mouth in proportion to its size than either the White or Yellow Bass, has no teeth on the base of its tongue.

HABITS: A school fish, also anadromous, (equally at home in fresh or salt water but makes migrations from salt to fresh water for spawning purposes). They often become landlocked but thrive nevertheless although they do not reach the size of their salt-water brothers. Prefer brackish water in deep holes. They spawn in April and May, but in fresh water this is often delayed for a month or more. Eggs are scattered on the bottom, receive no parental care. Hatch in about two days if water temperatures go over 60 degrees.

FOOD: In fresh water, White Perch feed on flies, insects, minnows, worms and crustaceans; in salt water, small eels, crabs, shrimp and minnows, also spawn of other fishes.

LURES: Spinners, bucktails, flies, spinner and fly combinations, also worms, small minnows.



By DAY C. YEAGER

How the Pike got its name

ONCE upon a time, during the eighteenth century, there were two Scotchmen who, oddly enough, were named Ike and Mike. Any similarity to the Ike and Mike of "Did you hear the one—" fame is purely coincidental. Ike Pike and Mike Peak began their friendship while standing in line to register at the Yoho yodeling school in Switzerland.

"Oi-ve nae brung me pen sir. Could Oi be aborrownin yours now?" Ike inquired.

"Shure now, and Oi wouldn't be the one to let ya standing there, unable to matriculate. Me names Mike, Mike Peak."

After they had matriculated, they decided to be partners and save the cost of another fountain pen. So it was also that, upon graduation, they decided to open their own yodeling school. They tried to buy a mountain but the only ones left had bad acoustics.

"Where sh'll we go?" they questioned.

"Ou about Hamerica. Oi 'ear tell they've mountains they haven't even yodeled on."

It was decided. They would pack a big box lunch and sail to the new world.

When they arrived they found that real estate was in a slump and going for nine dollars a county including all the Indians one could shoot. They set forth in search of a mountain with good echos and eventually reached what is now Colorado.

"Begorra, Mike, and there's a foine mountain now."

"That it is, Ike. Let's try it oot."

They tried it out.

"Yo-le-ah-lay-eee-hoo," they yodeled.

"Yo-le-ah-lay-eee-hoo," returned the echo.

Ike pondered a moment. "Shure now, and it's a foine echo we 'ave, we'll take it."

They took out a mortgage and hung out a shingle under the corporate title of "Pike and Peak, Yodeling school for beginners."

For weeks they waited for some business to come along, but no one came to yodel. The fad that year

was "bundling." So it came to pass that Ike and Mike began fishing in the lake at the foot of the mountain. They caught glorious strings of long golden fish, the likes of which they had never seen.

Winter came and with it, long evenings that weighed heavy on their nerves. One night when Mike was making out a check for a mail-order pitchpipe, he leaned too heavily on the corporation fountain pen and with a sickening "crack," it broke in two. Ike was furious and a bitter argument began. In fact, now that the pen was broken, they could see no point in continuing the partnership.

"We'll each take alf," they agreed.

Mike won on the toss of a coin and took his half out of the middle. The next day he trudged up the mountainside and planted a big sign for all to see "Peaks Middle."

Pike on the other hand had to make two signs which he planted also. The one on the top of the mountain was labeled, "This is Pikes Peak" and the other he placed in the middle of the lake which read, "Pike's also."

Years later, after much wear and tear, a group of settlers found the mountain, Ike and Mike were no longer apparent. All that was left were the three signs. In fact the one in the middle of the lake had sunk and read merely "Pike's."

The settlers found fishing so good that they decided to remain on at the edge of the lake.

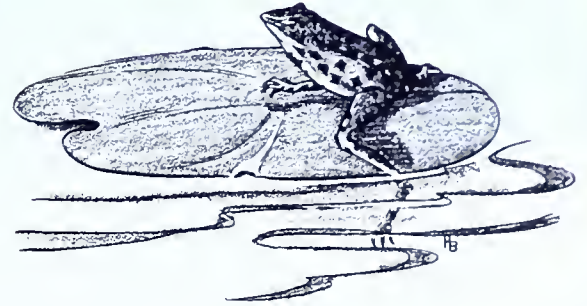
"Wonder what kind of fish they are?" one of them asked. "Don't know" answered another. "But the sign says "Pikes." Guess whoever made the sign must have known.

So it was that Pike's water-washed sign became the name of a favorite fish. The top of the mountain also became famous. Peak in his greediness was forgotten, as was his sign. "Peak's Middle," never was considered worth mentioning again.

By **DON SHINER**

(Photographs by Author)

Shotgun Fly for bass



BASS fishing figures largely in the life of the Pennsylvania angler. Soon after the season's door swings open, fishermen head for big rivers where the cunning, shy smallmouth bass are bunched in riffles like coveys of quail. Others strike out for lakes where the crafty pot bellied largemouth bass loaf lazily under logs and lilies. Bulging boxes of hair flies, plugs and spoons are packed for the lake bass, but bait—hellgrammites, crayfish and minnows—are preferred for the short-jawed river fish.

Most fishermen believe, and rightly so, that smallmouth bass seldom hit the big $\frac{5}{8}$ -oz. plugs and spoons pitched for the bigmouth. But many a river gamester fell in love with scaled down plugs, spoons and spinners spinned tantalizingly through the riffles. A small gold spinner and fly is one of these cupid lures. But my real knock out lure for the smallmouth is a big streamer fly. Pulsate a stork feather through the water or wobble a bucktail within range and I've found bass will quickly put on the gloves. And the bucktail that talks to bass more authoritatively than a double barreled shot gun is the tandem streamer fly. Here's why.

Small bucktails used for trout are seldom satisfactory. Bass prefer large minnows so it means using streamer imitations. But there is a limit to the size a single streamer can be made. If the overall hook is too long, or if the hair or feather wings extend too far beyond the hook's point, the fly will fail to connect with a playful bass. Wings made too long lets them nibble on the tips without biting into steel. Too long a hook lets bass strike sideways and miss the business end. The tandem streamer job is the answer, a double hook arrangement which hides a trailing hook in the rear. Let bass hit sideways or sneak up in the rear and either way it's a hooked goose.

Few bucktails of this type are made commercially because it's extra work. Prices for decent models would be prohibitive. If there are none to be had at your favorite tackle store, sit down at the kitchen table some evening and tie a few. The tandem jobs aren't difficult to make and they don't have to be perfect specimens.

Three or four bass will soon rip them to shreds. Just be sure to anchor the tail hook securely.

The illustrations show how I make this long fly. Begin with the little trailing hook. First tie a piece of 8-pound test nylon leader material to the shank and run this "snell" through the eye. Bind the snell in place with thread, coating the wrapping with lacquer or cement. Then dress the small fly. Silk floss, chenille, spun fur or tinsel forms the body. Add a few turns of hackle.

A 4 or 6X long hook size 2 is about right for the lead bucktail. Let the small fly project an inch or so from the rear of this hook. Overall dimensions should be around four or four and a half inches. First knot the nylon snell around the shank and bind it with tying thread. Then dress the streamer's body with tinsel, floss, chenille or combinations of this material. Add the longest hair found on a deer tail or big saddle hackles found on the backs of barnyard roosters. The wings should cover and reach beyond the "sleeper" hook.

The tandem streamer is simply two flies joined together. Heavy nylon or wire is used for the connection, not so much for freight train strength, but to keep the flies nicely in line. The rear hook surprises and catches the most bass. But for a little variation, let the rear hook bare and add a short piece of pork rind or a slice of a toy balloon. Both methods are acceptable to bass.

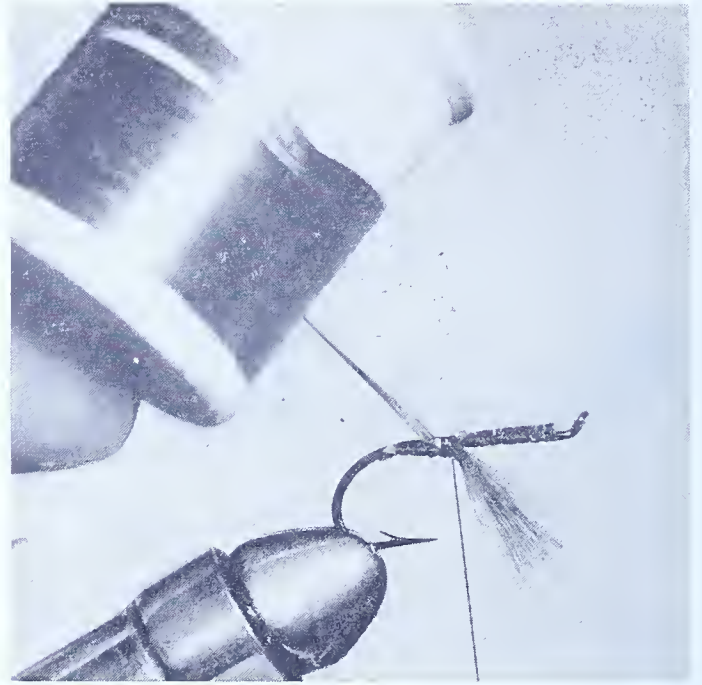
Fix a couple of these double bucktails to your hat band, then wade into the river riffles. Flip one across the currents and swim it, minnow-like, through the pool. For spinning, fasten one or two split shot, 10 or so inches above the fly. Work the rod in a pumping motion while retrieving the fly so that it has a darting motion in the water.

Whichever way you fish it, just remember to hold on to your hat. You won't want to lose those extra tandem jobs hooked in the hat band after the first husky smallmouth slugs the lure. Whether it's a nibbler or a side-swinger, you've got him fast!

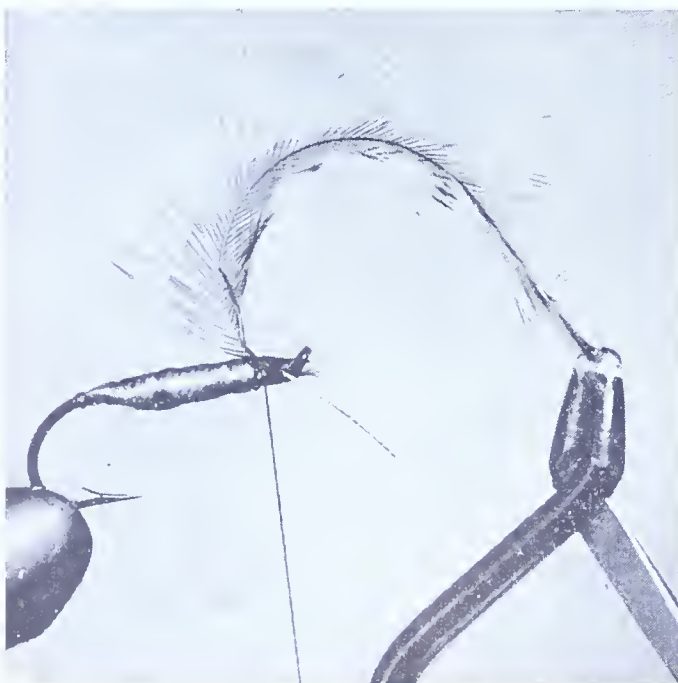
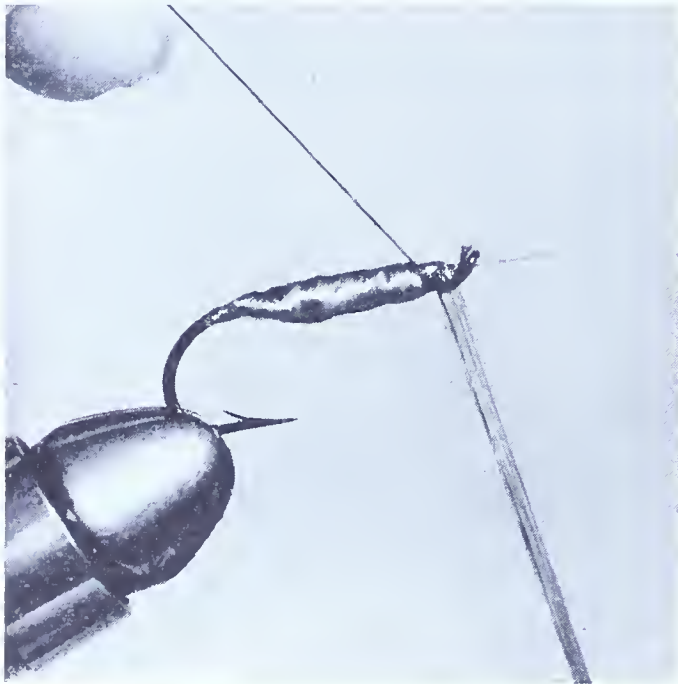
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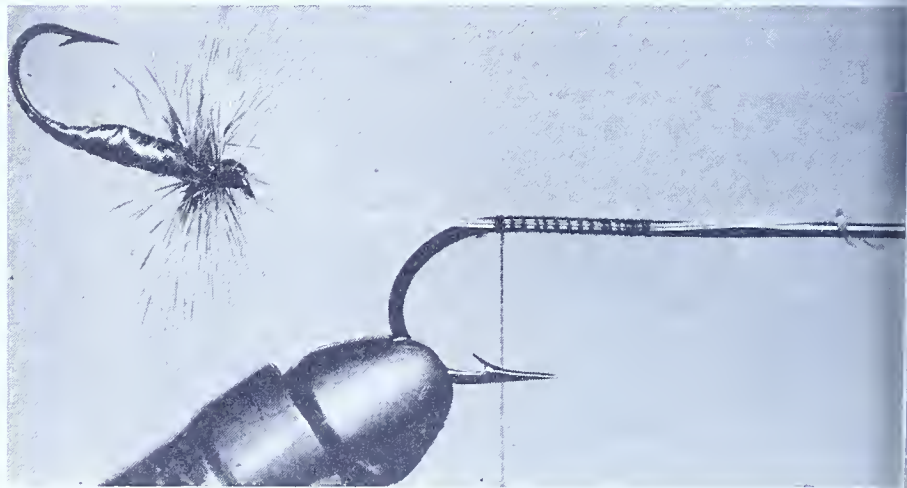
1. First tie a piece of heavy leader material to the trailing hook. Knot the nylon around the shank and thread wrap it securely in place.



2. Chenille, tinsel, spun fur or floss can be used for the fly's body. Here silk floss is being tied in place.



4. Wind in a few turns of hackle. This is enough dressing for the trailing fly.



5. Now insert a big 4 or 6X long streamer hook in the vise, knot the nylon leader around the shank and wrap it securely with the tying thread.

6. Tie in the body material near the bend. Here floss and tinsel are fastened in place.





7. First wrap the floss around the shank, then go back and rib it with the tinsel. This completes the body.



8. Select the longest hair on a deer's tail. Tie bunches of this material in place just in the rear of the eye.



9. Wind the tying thread over the butt ends of the hair and snip off surplus ends. Hair should be long enough to extend back over trailing hook.



10. Tie in different colors of bucktail for effect. Add some fibers from a feather for the throat, and cheek.

11. Whip knot the streamer and the tandem job is finished, ready to catch some bass. Rear hook can be turned point up or down. The tandem streamer can be used with a fly rod or with a light spinning rod by adding one or two split shot. Either way it's a "shotgun" bass lure!



C**onservation In Pennsylvania**



BIG ONE DIDN'T GET AWAY and 5-year-old Steve Buchinsky went on to win the Hershey, Pa. Community Club's third annual Fishing Derby held recently on Spring Creek. The 13-inch brown trout topped entries by some of the 135 other youngsters.

New Penna. Liberalized Fishing Regulations

Pennsylvania's fishing regulations for Pymatuning Lake, the 15 mile Windsor-Hallstead stretch of the Susquehannan River and the Delaware River between Pennsylvania and New York have been made uniform with those of neighboring states by recent action of the Pennsylvania Fish Commission.

With the exception of minor tackle limitations the changes represent noted liberalizations for Pennsylvania license buyers.

Most notable are those involving Pymatuning Lake where the season this year for muskellunge, black bass and wall-eye opened on May 26. Previously Pennsylvania's inland waters' July 1 season opener for warm water species applied. The November 30 closing date remains the same. The minimum legal length of muskellunge remains at 30 inches; the daily creel limit at 2. The minimum legal length of black bass changes from

10 to 9 inches. The daily creel limit of 6 for bass and wall-eyes remains, though the legal length on wall-eye also drops one inch, from 13 to 12 inches.

Under the new Pymatuning Regulations, an angler is permitted only two rods and lines or two lines in use or possession. Fishing anywhere on the lake is permitted with either a Pennsylvania or Ohio Resident License. However Pennsylvanians angling from the shore on the Ohio side of the lake must have an Ohio Non-resident License. Ohio anglers fishing on the Pennsylvania side of the lake must have a Pennsylvania Non-resident License.

The season for Walleye on all other inland waters opened on May 30, except in the Conowingo Pool on the lower Susquehanna River south of the U. S. Route 30 when the season opened May 1. The closing date on all waters remains November 30.

Uniformity of regulations between New York and Pennsylvania involving the Delaware River was also affected. The minimum legal size on bass has been reduced from 10 to 9 inches. The season on trout for this portion of the River has been extended from April 15 and the former closing date of August 31 to a September 9 closing date. Legal minimum size remains 7 inches. The combined species creel limit including brook, brown and rainbow trout and steel head remains at 10.

Another instance of tackle limitation is represented in the New York-Pennsylvania changes. The angler is limited to two lines with or without rods and may not exceed 15 single hooks or 7 double hooks or 5 treble hooks to a line.

A maximum of 5 tip-ups has been set with a single hook not exceeding 3 points per tip-up. This device may be used only in fishing through the ice to take fish not protected by a closed season. The name and address of the operator must be on each device.

Though Pennsylvania recently legalized the use of the long bow for the taking of carp only, spears and long bows may now be used on this section of the Delaware to take burbot, carp, catfish, bullheads, suckers and eels, from March 20 to November 30 inclusive. The user of these devices however, may not employ them within 325 feet of eel weirs.

Snatch hooks also may be used to take suckers, carp, bullheads and eels from this portion of the Delaware River between November 1 and April 30 inclusive. Blind snatching (fishing unseen by the operator) is prohibited. The taking of tadpole, stone cat for bait by stunning is permitted. The stunning may be accomplished by tapping a stone with an implement or another stone.

Worlds End State Park

Nestled in an unusual geological formation along the Loyalsock Creek, in the heart of the Sullivan Highlands, is the very popular Worlds End State Park. Located about one mile south of Forksville, Sullivan County, it lies at the center of the forty thousand acre Wyoming State Forest.

It can be reached from any part of the Commonwealth via State Route No. 87 from Williamsport and the west, via Routes U. S. No. 220 and State No. 42 from the south, and via U. S. No. 220 and State No. 154 from the east. It is about 37 miles from Williamsport, 38 miles from Bloomsburg, 21 miles from Canton, 36 miles from Towanda and 57 miles from Wilkes-Barre.

At the site of the Park, the tumultuous Loyalsock, having flowed westward for about 15 miles, makes a sharp turn northward. Here, after a brief quarter mile run, the combination of a solid rock ridge and a sheer mountain cliff force it into an almost perfect "S" shape. It was at the center of the second curve that in bygone days the creek formed a violent whirlpool. A small dam erected in CCC Camp days converted this water hazard into the present day, freshwater swimming pool. The Park straddles these turnings of the creek, nestling in the deep canyon formed by the sheer slopes of the mountain heights that surround it. An average elevation change of almost 1000 feet exists between the park area and the rim of the canyon above. These steep slopes are clothed with a verdant cover of pine, hemlock and hardwood timber.

The actual park area embraces some 600 acres of canyon bottom. Within this forested area are located picnic facilities of 108 tables. There are several large picnic shelters, and numerous smaller single table shelters. Parking facilities for some 500 cars are available. The large pool formed by the dam offers excellent bathing for several hundred swimmers. Across the creek from the main park area is a tenting and trailer unit capable of housing 20 tenting outfits and 5 trailers. Fees for daily or weekly use are nominal. Beyond these are the 19 rustic vacation cabins available to the public on a one-week rental basis. The cabins vary in size from one room, two bunk arrangements to three room structures with 4 bunks. The cabins are equipped with tables, chairs, bunks and mattresses, a two-burner electric stove, fireplaces, and wood requirements. Bedding and cooking utensils must be provided by the renter. These attractive units are tremendously

popular, so much so that books are accepted as of April 1st for the summer season, and October 1st for the hunting season. Other non-summer reservations can be made on, or after September 15th.

A concession is located near the center of the park. In addition to the usual refreshments and souvenirs, it handles a limited line of canned goods and ice.

Adjacent to the park itself are a wide variety of scenic attractions that can be reached by car or good roads. High above the Park on the rim of the mountain lies the Loyalsock Canyon Vista, affording an eye-filling view of the Loyalsock Creek, the Park proper, and the far-reaching mountainous area to the north.

About 9 miles distant, an unexcelled view of the vast panorama of the Sullivan Highlands is afforded by the half mile long vista at High Knob. This magnificent overlook permits the visitor a bird's eye view of an empire of forest land from angles that range over 300 degrees of the compass. Flanking the paved road are heavy banks of mountain Laurel bushes which are normally in full bloom about the second week in June. This display of color in pinks and white presented by these blossoms attract thousands of visitors annually.

Some seven miles to the south on Lewis Lake is the famed summer resort of Eagles Mere, with its large hotels, and excellent beach facilities. This setting is considered one of the most beautiful in the State.

Almost the same distance to the west is Laporte, the smallest county seat in the Commonwealth, and nearby is Lake Makoma famed for its swimming, boating, and fishing.

For those who enjoy motoring in the forest, some thirty miles of good dirt roads traverse portions of the Wyoming State Forest adjacent to the Park. Trout fishing is at hand in both the Big and Little Socks, and in dozens of small tributaries such as Shanerburg and Polebridge Runs.

The history of the site of Worlds End Park is interesting, and not without its touch of controversy. The unusual name given to it is explained in this way. In the early days, probably about the year of 1800, a horse trail, later widened as a wagon road, crossed the highlands from Muncy Creek to the "Forks" of the Loyalsock, now Forksville. At the site of the park this "dug" road circled around the sheer face of the mountain at an elevation of about 500 feet above the creek. To the nervous traveler of those days, hugging the rock face to avoid the abrupt drop from the outer edge of the narrow track, this awesome canyon seemed certainly to be "Worlds End."



C Conservation Across the Nation

The Hard Core versus The Free Loaders

Aldo Leopold once remarked to me that working on the land produced more real conservation than listening to the best speech ever written on the subject. Of course he meant work that improved the ecological community, the relationship between land, plants and animals.

By the very nature of our living pattern it is not possible for everyone to work on the land, and I am sorry to say there are too many pseudo conservationists that have the opportunity but possess little inclination to get dirt on their hands.

During the winter months they attend the meetings of their local Rod and Gun clubs, especially when beer and sandwiches are served, and listen to committees report on grandiose plans for tree planting, stream improvement, food patches, fish planting and on ad infinitum, to be carried out as soon as the ice goes off the creek and the frost is out of the field. When there is a call for volunteers everybody registers for some job.

But come spring, well, that is something else again. With fishing season open, the storm windows to put in the attic, the golf course open and the lawn to rake, the volunteer army never shows up to draw any water or hew any wood. All this flurry of activity ends with the State Conservation Department, a few handcore conservationists who can always be counted on, and some Boy Scouts or 4-H members left holding the bag.

Why does conservation lend itself to so much wind but to so little work on the land? I have tried to answer that question for thirty years and still find it unanswered.

To day is an era of big organizations with the capacity to raise funds for their specific enterprises and to make their efforts effective.

But conservation stands on the street corner out at the elbows and hat in hand begging for a handout. This applies whether it is a private organization or citizens appealing to state legislatures or to Congress.

Sportsmen are now spending billions of dollars for the equipment that goes with killing fish and game; but too few dollars and practically no time, effort and sweat for their perpetuation. Add up the price of all the equipment necessary for a deer hunting trip as against the license fee. Or, let's talk about ducks. The trip will probably include a \$150 gun; at least \$20 worth of shells; \$100 for a boat, and another \$200 for a motor. Add clothes, boots, decoys, snake medicine, and at least \$2500 for an automobile—a nice tidy sum for the so-called modern one-gallus guy. Yet some hunters will scream like a gut-shot panther because a duck stamp costs two dollars or a state wishes to increase its hunting license. It is analogous to people driving to church in Cadillacs and putting two bits in the collection plate hoping to save their immortal souls. Two bits

will not buy a ticket through the Pearly Gates, and two dollars will not save duck hunting.

There is generally found in every community a hard core of selfless, willing workers who uncomplainingly carry the conservation load for all the free loaders, from the standpoint of both personal service and contributed funds. Hunting, fishing and other outdoor recreation are no longer for free. Many things are involved from the biological factors to public relations. They all cost money.

Conservation precepts succeed only in proportion to the effort people are willing to put forth, and the amount of determination to make them succeed.

—Ernest Swift

Nation's Water Requirements Cited

That national welfare demands the maintenance of adequate supplies of useable water is shown clearly in the following article from the March, 1956, issue of *Soil Conservation*, the Wildlife Management Institute reports:

"Would you believe that every cutting of alfalfa requires about 326,000 gallons of water per acre to grow it? Or that an acre of cotton needs 800,000 gallons of water to mature one annual crop?

"In other ways, too, our consumption of water is staggering: A large paper mill requires 50 million gallons of water per day—more than enough to supply the day's personal needs for a city of half a million. It takes from 600 to 1,000 times as much water as coal to operate a steam power generating plant. It takes 18 barrels of water to produce a barrel of oil, 25 gallons of water to produce a gallon of aviation gas, 250 tons of water to make a ton of steel or a ton of sulfate wood pulp. It takes 42 gallons of water to produce a pound of rubber, and 1,000 gallons of water are required to produce a pound of rayon. Finally, in the United States the average use of water per citizen—for industrial, personal, and other needs—is about 1,300 gallons daily—and the total is rising all the time.

"Such facts show why farmers and urbanites alike are interested in protecting water resources and using water efficiently."

Taxes, Trout, and Watersheds

The Alpha and Omega of conservation is with the land. People who cherish their land are the people who join hands to make their communities sturdy and self-reliant, and in so doing they guard the nation's tax base.

A much neglected aspect of community improvement

lies in watershed management. Public agencies have been huffing and puffing and engaging in jurisdictional disputes on the subject, and that is about all. There are thousands of small, self-contained valleys tucked away in the hinterlands of this great country where the landowners by collective effort could upgrade their living standards, their happiness and pride of possession.

Such adventures in land management take leadership and industry, but the rewards are many. There are sufficient examples around the country to amply prove the case. In some instances the farmers have tackled their own problem; in others the Soil Conservation Service has given the impetus; others where the State Conservation Department led the way.

I know a trout stream that was being destroyed by erosion and where sportsmen led the attack. To begin with there was the usual round of debate and recrimination as to why the stream no longer produced fish, but with that out of the way, progress was made. An association was formed composed of sportsmen's clubs, the landowners of the valley, the county board, the State Conservation Department and the SCS. This became a prime example of down to earth, do-it-yourself project.

The first job fell to the SCS to sign up the valley farmers for soil practices; the second to the Conservation Department to supply trees at minimum cost for erosion control and woodlot improvement; the third, the sportsmen to obtain leases paid for by the state for land along the stream, and to carry on stream improvement and rehabilitation work.

The program is not finished but it is well advanced. Nearly all farmers are carrying on good soils practices; many thousands of trees have been planted; fishing has improved; raccoon, quail and grouse have moved back into the valley, and most important, the tax base has been saved.

In a valley just to the north the farmers have a watershed program through their own leadership and planning. They even added an embellishment, a community pheasant-rearing project. This gives the boys some sport in the fall and tends to hold them to their valley to become future farmers.

The blessings of good watershed management are many. State Conservation Departments are missing great opportunities if they do not assert leadership in this field. Every function of their department can come into play; there is no better meeting ground with the people of the land than through watershed projects; lastly, there is no better way for a State to spend its federal aid wildlife monies than through this media of resource management.

New Bedford Says Yes to Fishing Reservoirs

According to a news release issued April 9 by the Massachusetts Division of Fisheries and Game, the New Bedford Board of Water Commissioners have announced their unanimous approval to establish regulated angling in the New Bedford water supply. This was the result of a recent meeting held with local sportsmen, representatives of the Bristol County Sportsmen's League, and representatives of the Division of Fisheries and Game.

By means of a well-conceived plan for controlled



W. T. Davidson Photo.

fishing, and the exemplary conduct of over 20,000 boat fishermen annually on giant Quabbin Reservoir (water supply for metropolitan Boston), Massachusetts sportsmen have won the privilege of fishing in Assawompset pond, Pocksha pond and Great Quittacas pond. Assawompset pond is over 2,600 acres in size and is the largest natural body of water in Massachusetts. The chain of three ponds comprise 3,800 acres of fishing water.

Mayor Lawler of New Bedford stated that all officials of that city's water supply system would cooperate with sportsmen to the fullest possible extent. Both he and William A. Tompkins, chief aquatic biologist of the Massachusetts Division of Fisheries and Game, pointed out that fishing in these ponds was a privilege. Local sportsmen have pledged themselves to protect the public's interest in the water supply.

John Masefield States the Best Advice He Ever Had

Sitting still and wishing
Makes no person great.
The good Lord sends the fishing,
But you must dig the bait.

Notes

from THE

Streams

Grebes Get Grabbed

While fishing in Lake Wallenpaupack, John Yarsevich of Northampton and Charles Haines of West Catasauqua, observed a Horned Grebe that was having trouble swimming. They overtook the grebe in their boat and discovered it was towing a second grebe which was dead. The dead grebe had a hook down its throat and a piece of leader wrapped around its neck and wing. To the leader was connected a swivel and a second hook that was buried in the leg of the swimming grebe. After removing the hook connecting him to his dead mate, he swam away as though nothing had happened. It was assumed that when the female got into trouble, the male tried to help.

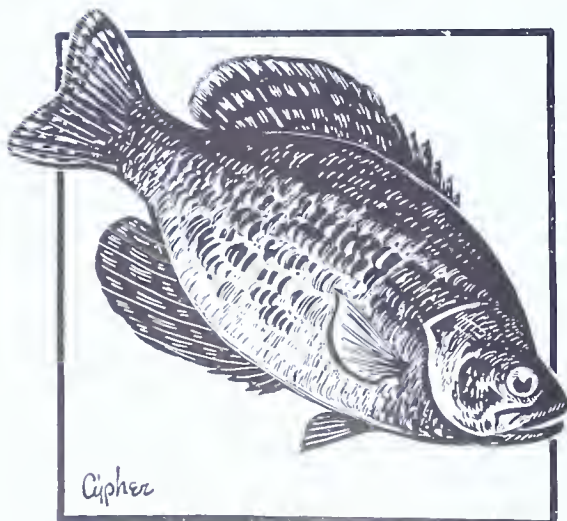
—Warden Joseph E. Bartley
Pike county

Arch-anglers Score on Carp

While patrolling the Conodoguinet Creek on May 30th, I was surprised at the great number of bow fishermen. They were taking carp around the Sample Bridge and Oyster Point areas. The largest one checked was 28 inches long, weighing 14 pounds.

On the same day, at Good Hope Mills, a rod fisherman caught one 29½ inches long, weighing approximately 18 pounds.

—Warden Barry A. Gracey
Cumberland county



Stiles Save Farmer's Fences, Temper

Large number of fishermen out on the first day of our trout season, no complaints from land owners in regards to damage. This is due to our local sportsmen building stiles across the farmers fences. We do have some fishermen who don't believe in losing a hook and saving a fish. I saw a large number of trout ranging from five inches to seven inches in length killed from the improper method in releasing fish.

—Warden Carnell Bryce
Franklin and Fulton Counties

Pike Snitches Sucker—Still at Large

Among the fishermen encountered on a recent survey on Sandy Creek above Sandy Lake, were Lee Forsythe of Slippery Rock, Al Fenrick of West Sunbury, and Larry Stones of Harrisville. Only Mr. Forsythe had caught fish. On his stringer were two suckers. Just as I was about to move on, his catch became quite agitated. The reason: a Northern Pike had made a pass at them. He missed, but on the second try grabbed the larger of the pair. He held the sucker crossways in his mouth, rolled around the stringer for a few seconds, then proceeded to turn and scale his dinner.

The four of us watched while he operated in about 15 inches of water, not more than a foot from the bank, and within 3 feet of ourselves.

When we were over our first amazement, we watched to see how he was going to get rid of the stringer. The answer was quick in coming as he made a lunge and jerked the sucker free. The last we saw was the white belly of the sucker as the Pike glided across the creek and under a log jam on the far side.

Mr. Forsythe made the observation that it was either a good place to fish or that particular pike was too lazy to do his own fishing. In any event, he would surely be back in season to see if he could put an end to that thievery.

The sucker was 16 inches long and the pike well over 40 inches.

—Warden Richard Abplanalp
Mercer and Lawrence counties

New Bait for Trout

While taking a creel census on Mehoopany Creek near Forkston this officer noticed a fisherman who had hold of what seemed to be a nice sized fish.

The fish, landed by Mr. Howard Sands of Tunkhannock, was a Rainbow trout sixteen inches in length. This fish seemed to be in fine condition, despite the fact that its gill covers were approximately ¼ inch short. The gills protruded from underneath the covers.

The fish was opened, entrails removed, stomach contents examined and found to contain, three single number six hooks, a piece of leader, and three pieces of Anthracite Coal. Each piece of coal was approximately ½ inch in diameter and ¾ of an inch in length. Perhaps we may have discovered a new trout bait???

—Warden Stephen A. Shabbick,
Wyoming County

Gentlemen:

To my idea the way you are planning to stock our trout, the secret way, is sure a good plan because the way they were being stocked and posted did hurt fishing because those who knew where and when were certain to be these with the whole family. They stayed until they caught the last fish. This was not fair to we older fishermen who try to catch trout later.

Harrison Weaver

Berrysburg, Pa.

Dear Mr. Weaver:

Thank you for your letter of May 21, commending our Commission for its present policy of not publicizing mid-season stocking. You have listed very well the reasons why it has been necessary to adopt this policy.

You have also hit on another important problem, mainly the littering of our stream banks, this is difficult to correct but I am sure it is the reason for much of the present posting.

Sincerely yours,

Albert S. Hazzard

Asst. Executive Director

Questions for Fish Commission

The caller said his name didn't matter. But he wanted me to answer in print his telephoned question: What did I have against the fish commission? After his refusal to identify himself. I shouldn't take his question seriously. But it happens to be a question I'd like to answer.

Generally speaking, I have nothing against the commission. Specifically, though, I too have a few questions to ask.

Was everything done in the past wrong? For instance, the five-day closing of a stream stocked during open season?

Last week Joseph M. Critchfield, local member of the fish commission, said: "This business of fish trucks being followed by a parade of 75 cars, with the boys ready to jump on the bank after the fish are dumped, will be a thing of the past. Under this system, we might as well have ladled out the fish in nets. Stocking will be done in utmost secrecy in the future."

Until this year fishermen following hatchery trucks took the chance of disappointment. Streams usually were posted for five days after stocking. But the present commission says the five-day closing only wastes fish. Will the new policy discourage truck-chasing?

Just how is the commission going to do its stocking in "utmost secrecy"? Will blacked-out trucks operate at night? Will truckloads of trout be disguised as hay or potatoes. Or will a hatchery send out several tank trucks that appear to be carrying milk or gasoline, one truck

carrying trout and the others serving only as decoys to draw over-eager fishermen off the trail?

Another question I'd like to ask: Why the relaxed rules at Paradise? If there was dissatisfaction with former rules, it was that they weren't strict enough. Under the new regulations, the worst that can happen to a chiseler is that he'll lose his Paradise privilege.

Question on Spending

Another question: Why did the commission spend \$25,000 on a booklet which it described in its own publicity as inaccurate and incomplete? Or \$100,000 for a study of its methods by an out-of-state efficiency outfit? All at a time it kept saying it had to raise the license fee from \$2.50 to \$3.15.

No, I have nothing against the commission. But sometimes I wonder why I don't.

Trough Creek?

But there are some who do. For example, Paul J. Hiborik, 202 Nees Ave., can't understand why Trough Creek near Marklesburg in Huntingdon County isn't stocked. Quoting him: "While trickles in Bedford and Cambria Counties continue to be stocked, why not Trough Creek in Huntingdon?"

And Thomas W. Krouse, R. D. 1, Portage, objects to commission policy in restricting certain streams or parts of them to fly fishing. He asks questions, too.

Are these streams restricted for any or all of the following reasons: (1) Because the commission feels the fly caster can't hold his own against the bait caster? (2) Because it feels that fly fishing is somehow more sporting than bait fishing? (3) Because of some vague conservation angle? (4) Or because certain interests feel they have some inherent right to special privileges?

Mr. Krouse contends that all waters should be open to all fishermen and all fishing methods. That goes for Paradise, too.

John Crowe—The Old Angler
—Johnstown Tribune-Democrat

Dear John:

One of our field men kindly sent me a clipping of one of your recent "Old Angler" columns subheaded, "Questions for the Fish Commission." I assume you want some answers, and will be glad to oblige. Further, I'll trust you, as a good newsman, to give them as prominent a spot as you did the questions. That fair enough? Let's take your questions in the same order in which you asked them.

First, let me say that by no means was everything done by the earlier Commission administration wrong. Much that was done was very good. Such things as opening all public waters to year 'round fishing for panfish and rough fish. That was very good. Maybe one of these days we can go further than that in liberalizing fishing, especially for the warm water species that still are under restrictions of one kind or another.

No more five-day closing? No publicity on mid-season stocking? Frankly, we don't know whether these new policies will turn out to be better than the old. We believe they will, and the Commission thought so enough to tell us to go ahead and give them a trial. Utmost secrecy? Maybe that IS too much to expect. No, we don't expect to disguise our loads of fish as "hay or potatoes." But we don't expect to have our wardens rendezvous with the trucks at the town post office, nor do we expect to send out the trucks on week ends when a lot of fishermen are on the streams. Of course some people will see the trucks and will recognize that trout are being stocked, but that can't be helped. Our thought is that there won't be the equivalent of another opening day rush to the banks of each stocked stream, and fewer irate farmers will get their mad up again at careless and thoughtless license holders for breaking down their fences, leaving closed gates open, trampling growing crops, running cars across planted fields, or strewing litter all over the place. So we try it this way for a season or so, and if it doesn't seem to turn out better than the old way, maybe we'll go back to it.

Relaxed rules at the Paradise on Spring Creek? I'll go with you on at least part of that. I'm afraid the original idea of a stream improvement demonstration area has been subordinated, and gets less attention from the fishermen, or the Commission, for that matter, than it should.

Why spend "\$25,000" on a booklet we admit is inaccurate? There are two angles to this question. In the first place, due to faulty information on my part, I recently said publicly that the booklet cost "between \$16,000 and \$20,000" (not \$25,000), whereas later calculations show the cost was under \$5,000. Chalk up an error on my part. As to WHY we published the booklet, the answer is that we were under orders from the Legislature to do so. As to why there were errors in the booklet, the reason is that the time element was such that it was necessary to go to press with information in hand, before we had opportunity to check it for accuracy. This booklet, by the way, was the one telling what streams were open for sucker fishing the month prior to opening of the trout season.

Why spend "\$100,000" for a study of Fish Commission business practices of the previous administration? We didn't. Don't know where you got that \$100,000 figure. The actual figure, one that we tried to publicize widely right from the start, was \$7,500.

Why not stock trout in Trough Creek? I asked our technical people about that, and was told that our records show the stream doesn't have much steady flow through the summer in its upper reaches, and that mine acid enters and pollutes it in its lower reaches. I'm told that at times the sportsmen's groups have gotten fingerling trout from us to put in the creek, but don't have any reports as to what the results have been. I am asking that another inspection be made of the stream this spring and summer, after our new regional fisheries manager gets settled at his Huntingdon office.

Your column also asked questions about special stretches of streams restricted to fishing with artificial lures. The Commission has set up such stretches only when petitioned to do so by the organized sportsmen of the areas. This, incidentally, is a holdover of a

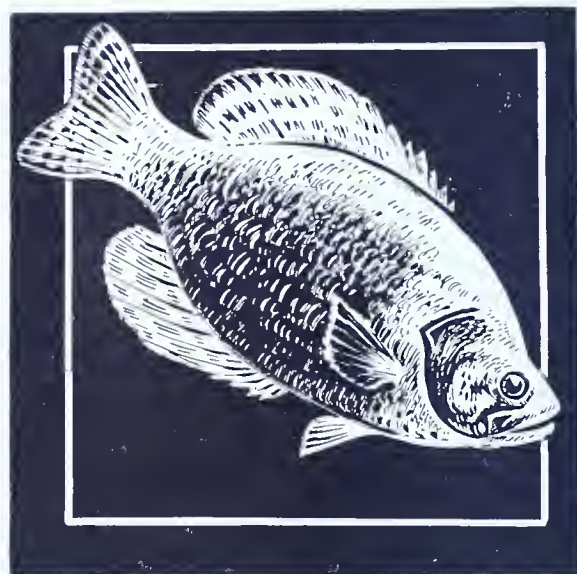
practice started many years ago by the previous administration; it is not something new begun by the present Commission.

The present Commission feels the system can be improved by following practices in vogue in Michigan and certain other states. There the agencies concentrate on doing stream improvement work in the creeks chosen, and rely entirely on nature to do the stocking. The special stretches thus are genuine demonstration areas intended to show how well nature can handle replenishment, if given a real chance. We hope we can follow this system in Pennsylvania before long.

In closing, I'd like to repeat what I told you at Central City the night of April 2: If you've got any questions, send them along to us and we'll try our best to give you straight answers. This is a demonstration of what I had in mind.

Sincerely,

William Voigt, Jr.
Executive Director



Dear Mr. Smith:

Please accept my sincere thanks for the prompt and favorable action taken on my request of April 20th regarding trolling on Harvey's Lake with motor boat for lake trout. After a ten year try, it was done in only one month.

—Peter T. Link.

Muncy, Pa.

Encourage Natural Propagation

Dear Sir:

I am very happy to hear the Fish Commission is seeking ways to improve our trout fishing. I feel that natural propagation should be encouraged and developed instead of relying so much on hatchery stocking. Anyone will agree that a native trout or one that has been in the stream for a longer time will be much more enjoyable to catch and fish for.

Here's hoping the Commission through its sportsmen and your magazine can help the other fishermen see the merit of this philosophy. It will create better fishing in the future.

—J. Van Wirt Johnson

Berwick, Pa.

Penna. Fish Commission
Harrisburg, Pa.
Gentlemen:

An item in the *Sunday Patriot-News* (Harrisburg) credits this remark to William Voigt, Executive Director. Quote. "Sportsmen should think seriously of some way to increase the revenue of the Fish Commission. By April 1, 52% of the gross commission revenue would be earmarked for wages," Unquote.

My answer to that remark would be: Earmark 20 per cent of the gross revenue for wages (instead of 52 per cent) and give the sportsmen who creates the gross revenue, by purchasing licenses, something worth while for their money. Having fished for fifty-one years I can conscienciously say I caught more trout, and nicer trout the first twenty years in Cumberland county than I have the last twenty-six.

Then, when catching the limit of 25 trout if I did not have at least ten or twelve a foot long or over, it was not considered a good catch. Catches like that could be made quite often during a season.

Now, how many fishermen catch twenty-five trout that are legal in a season? From 1905 to 1930 what per cent of the gross revenue went for wages? And the fishing and catching were better than now. Times have changed I know. But have they changed for the worse, that so much revenue must be used for wages to provide so poor a catch as most trout fishermen get?

Thanks for your interest in reading this letter. Keep the wages down, the dams open on the rivers so the fish can get upstream and you will have pleased and contented fishermen.

Very sincerely,

D. (Dave) J. Baric

Greason, Pa.

Dear Mr. Baric:

Please accept my apologies for the tardiness of this reply to your letter of March 26. With our heaviest work load at this time of the year, and all of us here "doubling in brass" to make possible returning the maximum amount of the license dollar to our lakes and streams, we have gotten a bit behind schedule.

Your letter sent me back a few years too. Not as many as you have seen, but far enough to remember when it was possible to catch fifteen or twenty nice trout in a day's fishing—and native trout, at that—and have stretch after stretch of stream all to myself. If you could turn back the calendar and re-live your days on the stream, and you saw someone in the next pool it would probably be me because I'd be right back there with you.

But that's not to be. Where there was one or two of us then, today there are one or two thousand. And to satisfy the demands of today's thousands, requires the extensive hatchery set-up Pennsylvania has. It takes manpower to operate those hatcheries and to raise and distribute the millions of fish your Pennsylvania Fish Commission puts in our streams. Your daily newspapers have again told you that story within recent weeks—1,804,000 legal-size trout stocked since the 3rd of February, with another 950,000 due for stocking during the season. And that's only one of the ways in which the Fish Commission serves anglers today. It takes

men to do those jobs and men must be paid. And because they work for the Fish Commission and the sportsmen of the state they should not be expected to work for less than they would earn elsewhere.

I wish this all could be solved by, as you say in your letter, "keep the dams open on the rivers so fish can get up stream." The only fish that would come upstream that cannot now are shad and eels on the Delaware and Susquehanna Rivers. On the Susquehanna River the Conowingo Dam is the barrier. On the Delaware it has been pollution. But how much of the problem would be solved across the State by eels and by shad runs in Spring on just two rivers.

No, Mr. Baric, with costs of everything up, as you well know, and the fishermen of the state expecting the same services they got in earlier years, in fact seeking more, it only follows that the revenue to perform those services must be increased in proportion to the cost of performing them.

As one who also is going to have to pay for that license, I too wish there was another way out. The only way would be to lay men off, cut back on raising fish, stock less and stop acquiring and building more places to fish. You don't want that any more than I do or than some 700,000 other Pennsylvania fishermen do.

Cordially

C. Robert Glover, Chief

Conservation Education Division

Dear Sirs:

The note by Fish Warden, Wm. E. McIlhenny in the March issue of *PENNSYLVANIA ANGLER* recalls an experience I had back in 1923 and 1924 with fish-eating crows. During those two years of my 34 years with the Fish & Wildlife Service (then known as "Bureau of Fisheries") I was Fishculturist at the Wytheville, Va. hatchery.

A series of outside rearing pools extended beyond gunshot distance from the hatchery buildings and when these pools were loaded with fingerling trout they were often raided by a small flock of crows which would line up on the edge of the pools and dexterously catch their breakfast. They gave us more trouble when snow was on the ground.

Crows, no doubt, have been fishing as long as man.

Chas. R. Wiant

Sweet Valley, Pa.

Longer, no doubt!

Lambasts Litterbugs

Dear Editor:

I read Mrs. L. F. Rank's letter in the April issue of the *PENNSYLVANIA ANGLER*.

I, too, think something should be done about fishermen who are litterbugs. If they were to lose their license for a while it might change their ideas. Car owners are punished for breaking laws so why not have something in the law to punish the litterbug. We need more places to fish and I do not think we can afford to lose any through throwing of trash along the streams.

Oris Johnson

Amen, Mr. Johnson.



PENNSYLVANIA

ANGLER

AUGUST 1956

PENNSYLVANIA FISH COMMISSION

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A *Litterbug Seldom Let's You See The Stream For The Trash!

***A LITTERBUG IS THE GUY WHO LEAVES
ONLY THE MARKS OF A HEEL IN THE
FOOTPRINTS OF THE SANDS OF TIME.**

WHERE DO YOU STAND?

**COMMONWEALTH OF
PENNSYLVANIA**

HON. GEORGE M. LEADER
GOVERNOR

★

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★

REGIONAL WARDEN SUPERVISORS

Northwest Region

CARLYLE S. SHELDON
Conneautville, Pa.; Phone 3033

Southwest Region

MINTER C. JONES
361 W. Lincoln St., Somerset, Pa.;
Phone 5324

North Central Region

C. W. SHEARER
200 Agnew St., Mill Hall, Pa.;
Phone 375

South Central Region

HAROLD CORBIN
521 13th St., Huntingdon, Pa.; Phone 1202

Northeast Region

RALPH O. SINGER
456 Main St., Honesdale, Pa.;
Phone 1485

Southeast Region

JOHN S. OGDEN
York, Pa.; Phone 47-3028

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Illustrations

Covers: Front & Back by Don Shiner

Page 7 photo of Silver Thread Falls, Dingman's Creek, Dingman's Ferry, Pike County

by La Mar Mumbar

Art by Bob Cypher

George W. Forrest, Editor

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Variety is the spice of Life

and you can thank Mendel

By KEEN BUSS

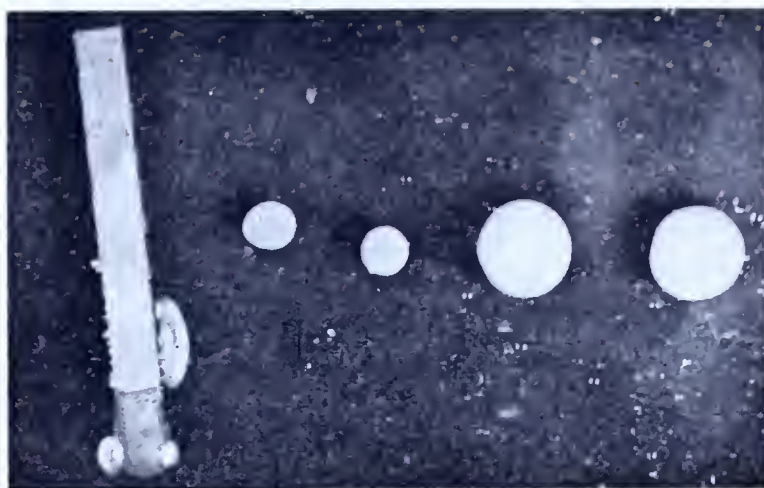
BLOND, brunette, redhead; vivacious, quiet, and demure, pleasingly plump, enticingly slim; and "Brother, just feast your tired fly-tying eyes on that one"; these are the varieties which spiced the life of man since time immemorial. At least that is what we outdoor men

thought until there came upon the scene the theories of a man named Mendel—Gregor Johann Mendel to be exact. It was he who jolted us from the esthetic to the practical and proved that variety could be the spice of life without the influence of fairer sex.



EGGS, greater number from individual females, means less brood trout need be maintained.

LARGER FRY from larger eggs. Larger fry shown are directly related to size of the egg, therefore plays an important part in selecting for faster starting, larger fish.

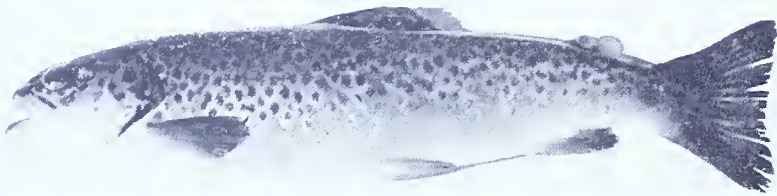
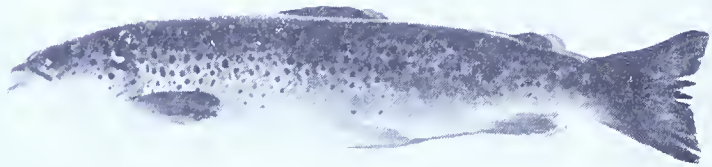
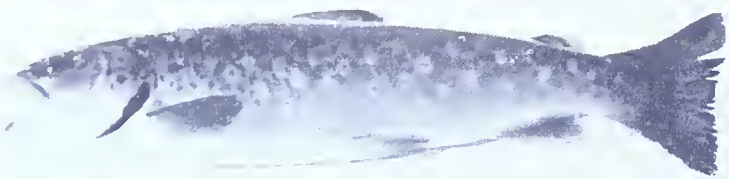


LARGER EGGS means eggs more easily handled, cared for. Related sizes of the four eggs are here compared with an ordinary paper matchstick.

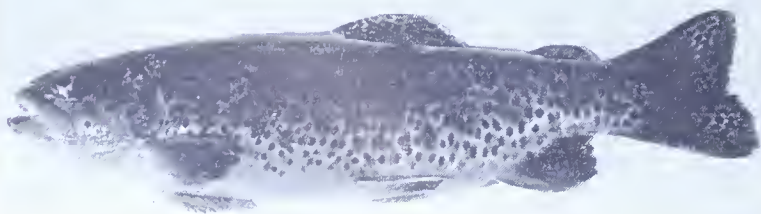
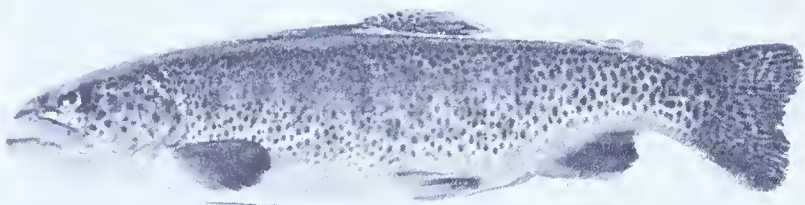
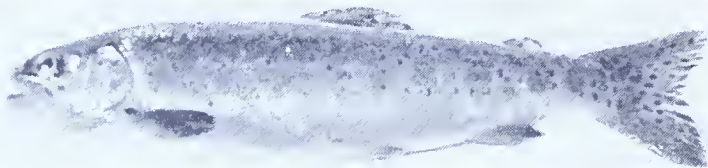


NATURAL COSMIC COSMETICS of trout have a wide range. Upper brook trout is almost colorless with little or no spotting. Middle and lower trout have heavy spotting but spots of different size and color.

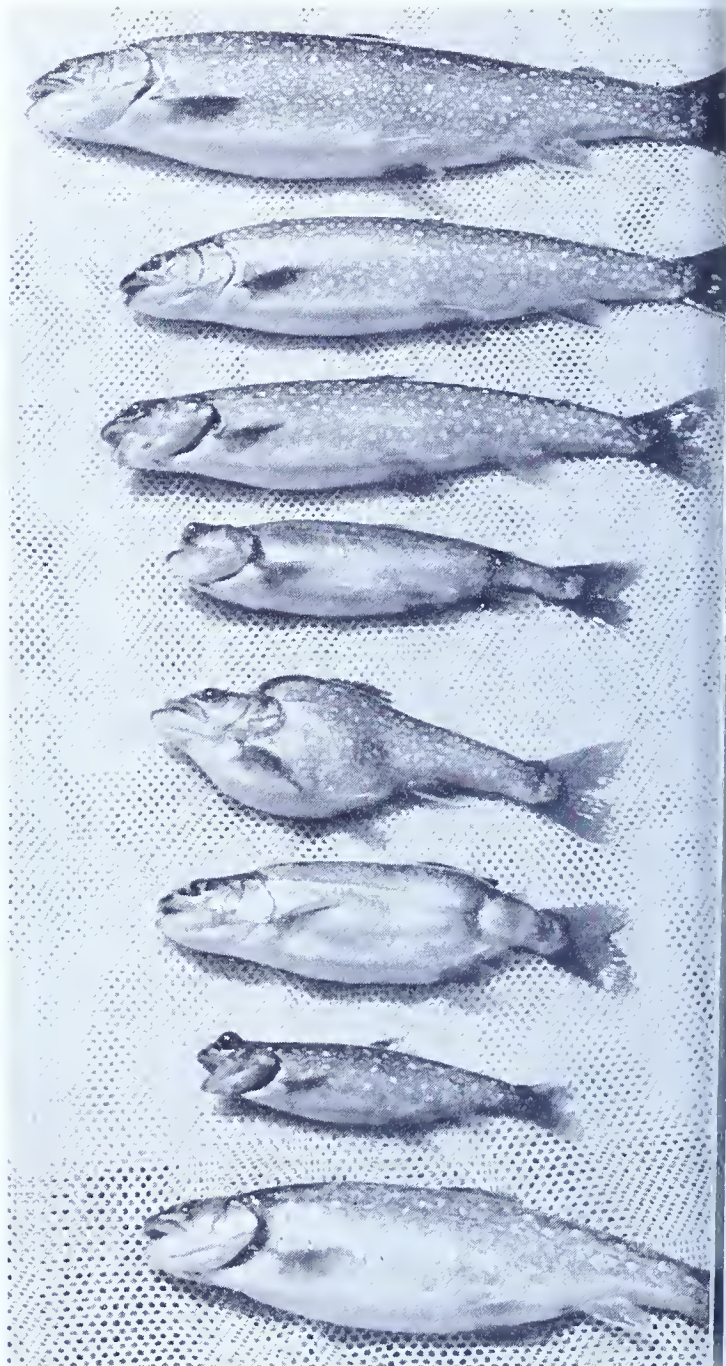
Variety was the spice of Mendel's life, and not varieties of gals, for he was a priest at the Augustinian Monastery in Brunn, Moravia. His avocations were the spice of his life. He studied meteorology, geology, and biology. Mendel's outstanding work was in the field of biology where he unlocked some of nature's secrets in breeding behavior. He discovered the basis for modern genetics when he selectively bred many different varieties of plants. His classic results with peas demonstrated a simple principle upon which the modern Mendelian theories are based. For example, Mendel crossed tall peas with short peas and found that all the resulting pea plants were tall, but when he crossed



TROUT ARE LIKE PEOPLE, everyone has different appearance. Note variation in these brown trout markings and shape.



THE RAINBOW can not always be found on rainbow trout. Top fish is practically colorless, while bottom trout is highly marked.



NATURE PLAYS PRANKS or does some experimenting on her own sometimes. Note difference in normal large fish at top and other fish below. These cripples appear in very small percentage of the fry which are hatched.

these plants of the first generation with each other he found that he obtained three tall plants for every short plant. As some people would say, "The short plants are throwbacks." These "throwbacks," however, weren't just accidents, but rather one of nature's calculated procedures. These procedures hold true in all living things whether man, mice, or molds; trees, truffles, or trout when simple heritable characters are crossed.

During all of his amazing discoveries, Mendel's life was diversified. First, he had leisure time for his hobbies, but little space was available. Then when space was available he had little time. In his later years when he had both space and time he became so obese that he couldn't climb the hills where his gardens were located. To lessen his weight, he smoked twenty cigars daily, but to little avail. With all of these frustrations, Mendel managed to lay the groundwork for the breeding principles which were destined to revolutionize plant and animal breeding.

Although Mendel's investigations in the 1860's were at the time in vain, they were rediscovered at the turn of the twentieth century. Scientific research uncovered new facts and progress proceeded in astronomical fashion. The study of genetics was to play an important part in the health of man.

The Augustinian priest must smile contentedly from his seat of honor in Paradise when he sees how his work benefited man in the field of medicine. Early in World War II, Fleming, an Englishman, discovered an antibiotic-producing mold, *Penicillium*. This antibiotic with all of its amazing healing properties could not be produced in large enough quantities to meet the demands. Something had to be done to produce this drug cheaper and in larger quantities. Toward this problem, scientists turned their attention and soon they discovered that by irradiating *Penicillium* with X-rays they could develop a strain which would produce 280,000 units instead of 90,000 units of *Penicillium* per pint of cultural fluid. This antibiotic soon took its place in every hospital, doctor's office, and medicine kit in

the country. The drug was available to every one, thanks to Mendel's theories and Muller's subsequent investigations with X-rays and mutations.

Mendel's study of inheritance, begun so quietly at the Augustinian Monastery, was, appropriately enough, to play a role in the study of fish. Dr. Myron Gordon, a geneticist of the New York Zoological Society, while studying the inheritance of color patterns in tropical fish discovered that when he mated swordtails and platyfish some of the offspring developed melanomatous (cancerous) tumors. From this extensive research it was shown that the color cycle and the tumors were genetically controlled in fish. This discovery was recognized as one of the facets in the never ending search for cancer control and cure, and was given support by the National Advisory Cancer Council of the National Institute of Health. Mendel must have lit another Heaven's Havana at this turn of events.

These are but a few of the great discoveries attributed to the science of genetics. The necessary ingredients are knowledge, research, and above all—variation. As necessity is the mother of invention, thus is variety the mother of selection. Mendel's halo of cigar smoke must grow denser as he watches the work being done for man's greatest health building hobby—fishing. Biologists recognized in fish-cultural studies one of the prime requisites of selective breeding and that is variation. Trout of the same species vary greatly in rate of growth, color, body shape, vigor, egg number, egg size, disease resistance, etc. Why not utilize this variation and develop better fish for better fishing? That is exactly what the Pennsylvania Fish Commission is doing at the Benner Spring Research Station.

The accompanying photographs describe better than words the variations which exist in trout. Selection from this variety will spice the new trout rearing program.

In future years, when you land that bigger fish remember to say a silent "thanks" to old Mendel, and remember that variety is the spice of life even on your favorite fishing stream.

There is no need to worry or be gloomy about how the next generation will carry on the work of conserving our natural resources in America. After all, the boy who wasn't good enough to marry the daughter turned out to be the father of the smartest grandchild in the world.

Are there sufficient public areas of native wilderness in your community where you can PICNIC? CAMP? RELAX? OBSERVE WILDLIFE ANTICS? If not, here are some suggestions . . .



By ALDEN E. SMITH

In The Nature Conservancy

Natural area parks for your community

PEOPLE have often said that there is "nothing new under the sun." At the rate our present civilization is traveling, the opposite will soon be true. There will be nothing old under the sun. This is particularly true of our heritage of wild nature. What we save today—what we set aside as wild parks and nature study areas—will be all that remains of primeval conditions to provide for the educational, scientific, and esthetic needs of future generations. There is an urgent need for action.

Our grandfathers worried very little about wild area recreation. It was not that they did not enjoy picnics, bird songs in the woods, and rambles along the banks of meadow brooks. They did appreciate these things. This is amply demonstrated by the awe-inspiring descriptions of the primeval wilderness found in the writings of our early authors. But they felt no need to preserve the wilderness—it was all around

them, marching right up to the village limits. It was a short walk from any man's house to the nearest woodland grove. The need for relaxation through communion with nature was fulfilled by the ordinary tasks of the day. There was wood to be gathered in the woodlot; wild berries to be sought in the lane; the horse to be brought in from the pasture; and a myriad of other outdoor tasks to be taken care of. Nature was an integral part of life.

How times have changed! Our fathers have witnessed the conquering of the wilderness in the age of machines. The bird song in the woods became the chirping of the English sparrow in the city park. The brooks became encased in concrete, their sparkle hidden beneath the city streets. The meadow became a tailored lawn, the woodland grove a row of street trees. And the city grew—and grew—and grew. It extended its boundaries as far that a

walk to the country became a hike, and even the continued existence of country to walk in seemed in doubt.

Our fathers thought they had found a solution to this problem. They invented the automobile, calculated to carry themselves and their families beyond the city limits in a shorter time than it took their ancestors to walk to the woodlot. With this accomplished, they sat back, mass-produced their automobiles, disregarded the march of the city, and considered the problem of wild area recreation solved. The explosive growth of populations in the last few years and the phenomenal concentration of people in cities have proven these policies to have been shortsighted. In our confidence in the machine age, we have overlooked the need for contact with nature.

We are fooling ourselves today in the name of recreation. We jam the highways in our cars, stopping only to buy food and drink and seeing little of the out-of-doors. At vacation time we jump in the car and take off at sixty miles an hour for some crowded beach many miles away. We try to "see" a whole series of the national parks during our two weeks vacation! With the auto we are building up more of the very tensions that we could be using the vehicle to escape. By sheer force of numbers it is losing much of its value.

There is something in all of us that requires a little contact with nature every so often—the quiet solitude of a walk along a forest path, the thrill of seeing small wings flashing from branch to branch, the feeling of well-being created by the sight of the first spring wild flower. A hard day at home, office or factory, beset with all the stresses and strains of our modern day pace of living, demands a daily interval of complete rest and relaxation. Such is the relaxation of the stream bank, the wooded trail and the shadowy glen. It is the escape from the noise, the crowd, the press of office and factory. It is the soothing coolness of a grove of green trees; the sunlight throwing back a flash of color from the hillside; the song of birds; the smell of wild flowers; the sight of the scurrying chipmunk. This is the relaxation of a visit to a park that has been kept as nature made it—wild, natural, free from disturbances—primitively beautiful.

It would be a sad world indeed if the only living things on the landscape were man and the plants and animals conquered by him. We need to save for our children a world of wild



nature, unexploited by man, so that they can marvel at the resources that made this country great. Other creatures have the right to live and we should provide them the opportunity as our civilization destroys habitat after habitat.

Wild areas provide valuable lessons in natural history for school children. Who does not remember those younger days of catching tadpoles in a small pond; gathering wild strawberries in the fields; and fishing lazily from a sunny bank in the spring? Given the opportunity youngsters can learn much from nature. A nearby natural area park will supplement your community's school system.

There are parks in most communities. But they are often no more than tailored lawns and clipped bushes affording little opportunity to relax from the press of modern living or escape the crowd. They are places where people walk their dogs and stop to rest before continuing on down the street. They are usually replete with concrete side walks, the trademark of civilization. Some, utterly devoid of trees, are used as baseball diamonds and offer the casual stroller no rest or relaxation.

Some city fathers were more farsighted than others and preserved areas of wild nature inside the city boundaries as they expanded. Maybe you live in a town fortunate enough to have picnic areas among forest trees and bushes. If not, there is still time and opportunity. Our cities are growing constantly, and the need for parks grows with them.

A piece of wild nature in the center of the city can be a source of great civic pride. All of us have admired such areas when we have come across them in other towns. You probably have envied the people whose homes were adjacent to the park. If you care to set these areas aside while there is still time, others will admire your town in the same manner.

There is another advantage of a natural park area. It gives the family a chance to get together in the open air. If the park is within the community, the advantage is obtained throughout the week. Such an area gives the family room to spread out in. The word "outing" expresses the idea very well. Without these areas being set aside, there would soon be no room for outings. And they must be preserved as we go along or their wild area value will be permanently lost.

There is a genuine need for wild parks for the educational, scientific and esthetic values

they provide. In order to meet these needs satisfactorily the parks must be available to all of the people. It is clear that if we are to have natural areas in our communities we must set them aside now. If this is done the city will surround the areas and contain them—otherwise they will be systematically eradicated. It may be all right to postpone the building of a baseball diamond. It can be built on almost any site in the matter of a few days. But it has taken nature thousands of years to build a meadow, a swamp, or a forest. Fifty years from now we can knock down a slum area and build a tennis court. But once we cut down a woods, drain a swamp, or otherwise destroy a wild area, it is lost forever. Human hands cannot rebuild nature.

How well is your community meeting the needs of its citizens for wild park areas? Take a map of the region and study the existing parks and their locations in respect to populated areas. Do you have enough parks? Is their number growing as the population of your town grows? Are they located so as to be available to all of the people? The answers to these questions will show you how your town measures up with respect to natural area parks.

If you are dissatisfied with your park system there is much you can do. Look at your map again. If you were allowed to establish additional parks, where would you locate them? In most cases you will find the only places comparatively undisturbed and suitable for park areas are on the outskirts of town.

In rare cases an undeveloped estate may have remained untouched as the city grew around it. Sometimes the owner of this type of property would like to see it preserved as undisturbed as possible. Some excellent park areas have been established in this manner.

After studying the situation on your map mark off areas which seem to be unoccupied and go out and investigate them.

Don't be disappointed if you find no true remnants of the primeval wilderness in your community. The need for natural area parks would not be so imperative if there were many such areas. Look, instead, for areas in a fairly natural condition. Most such places can be fitted into a natural park system with a little careful planning.

Consider each area in the light of its own merits. By making a tentative plan for the use of each tract, you will lay the basis for a com-

parison and appraisal of their respective values. You will be amazed at the possibilities you turn up in this manner during your inventory.

Valuable natural areas can be given additional protection by making sure that they will be surrounded by a small strip of adjoining land. The entire area may not need to be very large, but actual size should be determined by the type of area and the amount of anticipated use. Remember that it is always important to plan large enough for future needs.

When you have considered areas around the community and have selected one or more promising ones, you will want to initiate a movement to have them set aside. At this stage of planning, you are ready to organize a committee to help you start actively working for a better park system. You may be able to find an interested organization to sponsor the committee. At any rate you should see that organizations are invited to be active participants in the effort.



Choose your helpers carefully. Remember that you will need people who can do a variety of things—and people who get things done. You will soon encounter problems with finances, publicity, correspondence, legal matters, and many others with which you may need help. It will help to have civic leaders such as a lawyer, banker, newspaper editor, and radio commentator serving on the committee. You should also invite groups that would be particularly interested in the park plan to send representatives. Some, such as

the Boy Scouts, Girl Scouts, nature study groups, and garden clubs certainly should be included.

After you have enlisted enough help, call an organization meeting. A good deal of discussion will probably be necessary before your group will be ready to adopt a specific plan of action. Don't become discouraged if progress seems slow, remember that if you wait for someone else to do the work it may never be done. In the long run, the rewards in satisfaction and community accomplishment are well worth the effort.

One of the first duties of the newly formed committee will be to decide on the area or areas to be preserved. Much information on all of them will be required before any decision can be reached.

Contacting the owners of the properties will be necessary. It is essential that this be done before they hear rumors of what is going on. Nothing is so likely to antagonize an owner as hearing indirectly that someone has designs on his property. It is desirable, also, to approach an owner through someone who is his personal friend. At least, one should find out something about the owner's background and attempt to approach him in a way that will produce a favorable response on his part.

Many people who own property adequate for use as a natural park would like to see it preserved. In some cases the area has remained in a natural condition because the owners were lovers of nature themselves. Prosperous persons may be willing to donate this type of land for such uses.

Most land, however, represents an important financial investment of the owner and he must secure a fair return on it. Ordinarily funds will have to be raised to purchase likely properties.

The final choice of an area will depend a great deal on the terms under which an owner will sell. You may obtain special consideration from him when he understands the anticipated use of the property. Offering the owner a place on the committee or other honor in connection with the park plan may also serve to enliven his interest in the project.

Remember that the price should be only one of several considerations in the final choice of a natural area. A tract which is comparatively expensive can be well worth the price.

It will be well to consider the possible agen-

cies that might manage parks and preserves in your state and locality. You should become acquainted with your state park setup and with state laws governing the establishment of city or county parks or forest preserve districts. If there is such a district already established in your territory, you should be able to work closely with it to achieve your objectives. If there is not, you may want to promote the organization of one. Other possible custodians for wild preserves include schools, colleges, museums, and nonprofit associations having an interest in nature preservation. Often it is possible to work out a cooperative arrangement between several agencies to provide for holding title and managing areas. The Nature Conservancy will participate in such endeavors under proper circumstances.

There are three principal ways in which acquisition of an area can be financed. These include 1) purchase by an agency of government with public funds, 2) purchase with funds contributed by one or a few large donors or donation of the tract by the owner, and 3) purchase with funds raised by public subscription. There are, of course, many modifications of each of these. Sometimes, for instance, a large donation will be pledged on the condition that it be matched by other gifts. Support of this sort is a great help in starting out a fund drive. In other cases, an agency of government may be in a position to lend partial support

providing the other part is raised by public subscription.

You should not overlook the value of philanthropic efforts in establishing wild parks. Just as in other phases of social welfare and charity, the greatest progress comes when voluntary efforts play a leading part.

You may have many matters of organization, publicity, etc. to handle before your program is successful. We will not attempt to cover the details concerning methods of fund raising, or of campaigning for adoption of a program by an agency of government. Information on these subjects, or suggestions of where such information can be obtained, will be supplied on request to Nature Conservancy. Natural area preservation projects are now in progress in many parts of the country and Nature Conservancy serves as an agency for exchange of information on this work.

However your project is carried out, you will be amazed at the way people respond once they are told of the need and given specific information on what they can do to help. When you realize that a single painting in an art gallery may cost more than a natural area park, you can see that you should have little difficulty convincing others that their parks are bargains! You will have a real job ahead if you decide to start a natural area preservation project. But the reward of knowing you are helping to build a better America will more than repay your effort.

The Keystone State

If you're off to Pennsylvania this morning
And wish to prove the truth of what I say
I pledge my word you'll find the pleasant land behind
Unaltered since Red Jacket rode that way.

Still the pine woods scent the moon, still the catbird
sings his tune,
Still autumn sets the maple forest blazing.
Still the grapevine through the dusk flings her soul-
compelling musk,
Still the fireflies in the corn make night amazing.

They are there, there, there with earth immortal
(Citizens, I give you friendly warning),
The things that truly last when men and times
have passed,
They're all in Pennsylvania this morning!

—Rudyard Kipling

By ART CLARK

Bronzebacks of the Schuylkill !!

OUR early stay-at-home fishing habits around metropolitan Philadelphia and southeastern Pennsylvania led us to a great discovery. Back in 1953 we discovered the fishing potential of that much maligned waterway, the Schuylkill River. Thank heaven an aroused public and the sportsmen had discovered its deplorable condition years before. It is our prediction that the Schuylkill will, in the very near future, become Pennsylvania's best bass stream. It's present condition is a tribute to the Fish Commission and the Pure Stream Laws. It continues to flow deep and clean as an everlasting monument to a fighting public and their determination to keep our streams clean.

We approached the mighty Schuylkill via George Washington's Valley Forge. Complete with fishing paraphernalia we surprised one of the park's guards. "Most people come out here to catch up on their history . . . seems odd to come across a fisherman in George's domain" . . . he remarked as he stroked his chin. We replied; "George Washington did a heap of fishing in his time and what was good enough for 'George' is certainly good enough for us."

We now have a private parking lot formerly used by the passengers of the Railroad at the Valley Forge station. Our many trips to the river bring a friendly wave from the kindly guard as we struggle by with fishing gear. Many tussles with Mr. Bronzeback has strengthened our conviction that it pays to fish in your own backyard.

September 1955 we motored past Port Kennedy across the river via Route 363 to begin exploration of the upstream right bank. After crossing the bridge we continued on 363 to the first black-top road where we turned left and continued to a single track railroad. We plowed through the mass of tangled vines down a steep hillside and river bank until we reached the water's edge. Several hundred yards downstream we saw an old retaining wall and some fishy looking water. Since our trip was exploratory we hastened back to the car for the fishing tackle.

We returned to the river by way of a small stream that led us through a man-sized tunnel back to the river. This return trip was easier since we took ad-

vantage of Mother Nature's approach. Here we found that a small branch of the river flowed around a tree-laden island and blunted its force against the old stone retaining wall.

We watched several twelve inch bass break water, and then returned to the car. This trip was successful, for we had found another easy approach to the Schuylkill. We returned to our first love, the railroad station platform at Valley Forge. Here we enjoyed a welcome lunch while watching activity in the River.

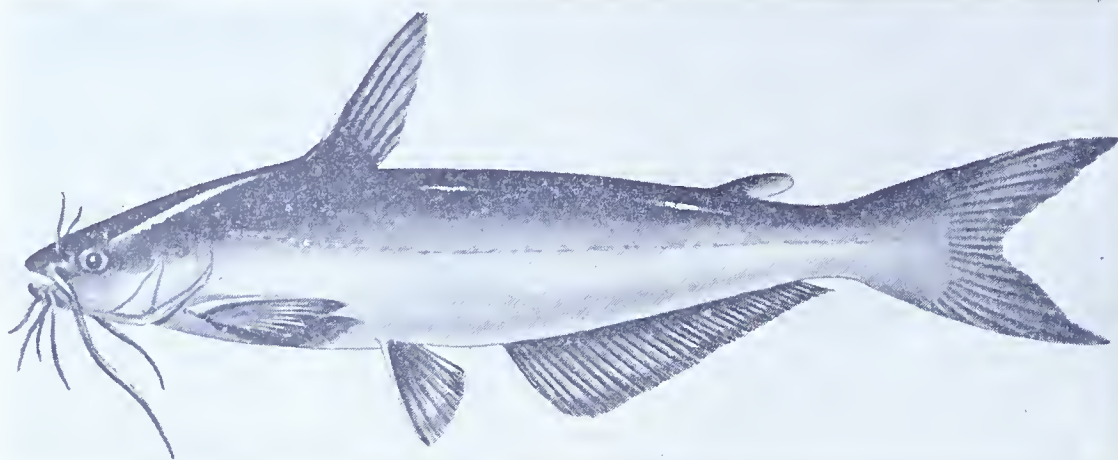
We could see where one of our favorite trout streams entered the Schuylkill just above the RR Station. Cooler currents from Valley Creek hug the rocky, high banks along the tracks and here the frisky smallmouths come to cool-off and partake of the crayfish that frequent the rocky bank. Our advice to smallmouth bass anglers would be to find a crayfish colony and there you will find Daddy Smallmouth.

Damage from Hazel's high-jinks reminds us of the nightmarish havoc that angry waters and high winds can accomplish. Mother Nature still makes man's greatest efforts puny by comparison. The River is dotted with deep, scooped out pockets between huge boulders. These huge boulders line the near shore, some of them too big to be disturbed by Hazel's mightiest efforts. Sheltered between the large rocks can be found many tiny stone studded pockets, and crevices. It is here that minnows and crayfish seek shelter from hungry fish. It is also the place to seek the marauding bronzeback. Look for Mr. Bass near the food laden pockets.

The flood has also swept this part of the river clean of green vegetation, harbinger of fish food. Last year the river was bristling with weed beds and noticeably alive with minnows. Except for temporary absence of vegetation, this section of the Schuylkill is excellent smallmouth water.

Another trip to the reincarnated waters of the Schuylkill just opposite the Valley Forge RR Station last year during October, found the river high and roily. The water was stirring from recent rainstorms and we were forced to wade at a safe distance from the main

(Turn to page 14)



BLUE CATFISH (*Ictalurus furcatus*)

Largest catfish in the country often mistaken for the Channel Catfish. Many anglers say eating qualities not far below that of the Walleye.

RANGE: Southern Canada and Great Lakes region to Gulf States and from the Appalachians west through the Mississippi Valley but most plentiful in the Mississippi and tributaries.

CHARACTERISTICS: Dark bluish-gray on back fading into a slate gray on sides. Silver white on belly. Has no dark spots characteristic of the Channel Catfish. Head is smaller in comparison with size of body than other catfishes. Its uniform blue color and absence of spots distinguish it from the Channel catfish but it also has a deeply forked tail.

HABITS: Prefers slow moving waters but will inhabit fast waters. Mostly a bottom feeder.

FOOD: Like other catfishes, feeds mostly at night on practically anything that fits its mouth.

LURES: Rarely strikes artificial lures but will mouth anything in the bait line that attracts its appetite, which generally has an odor.



BROWN BULLHEAD (*Ameiurus nebulosus*)

Largest member of the bullhead tribe, also known as a Horn Pout. Quite acceptable to small boys.

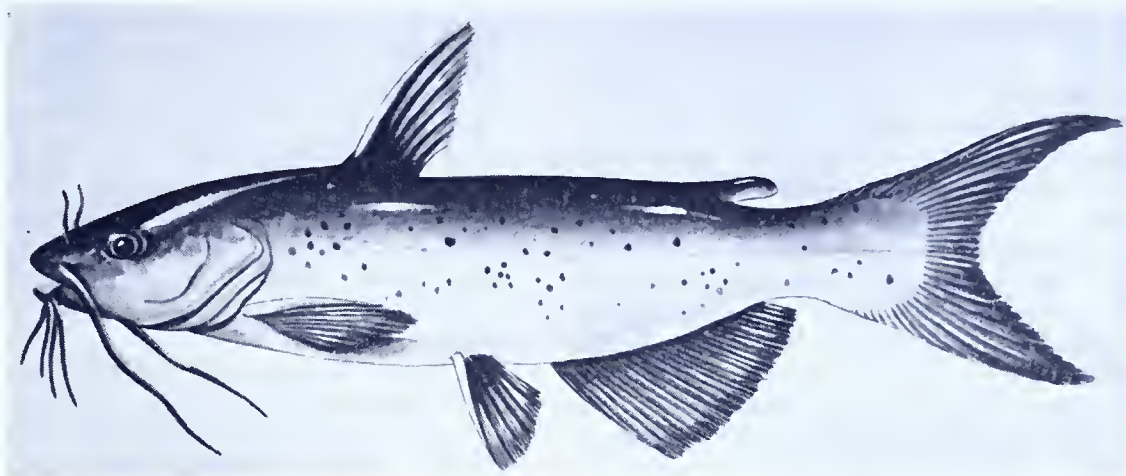
RANGE: From southern Canada to Gulf of Mexico, and east of the Mississippi Valley. Ease of transplanting has made it abundant in most states.

CHARACTERISTICS: Color varies from light brownish yellow to a black-brown, but it is generally a dark brown with mottled markings of a darker shade. Coloring of sides and belly becomes lighter. Like the catfishes, the Bullhead has no scales, and the forward spines of the dorsal and pectoral fins are extremely sharp, have sawtooth edge. Barbels are dark in color.

HABITS: Can live in stagnant, polluted waters in which other fish could not survive. Lives out of water an extremely long time. While not a school fish it teams up with its relatives . . . where you catch one you no doubt will get others, prefers stagnant muddy streams and soft muddy bottoms. They spawn in late spring and early summer. Extreme care is spent preparing the nest built by both male and female. If natural nest is not available they will dig one of their own, using the stiff spines as picks and their mouths as shovels to carry away the mud or dirt. The eggs are then deposited in the nest and cared for by both parents. After the eggs hatch, the young are carefully guarded by the parents who keep them rounded up in a compact school.

FOOD: Worms, minnows or crawfish but like other members of the family, draw the line at nothing including a piece of stinky cheese, so long as they can get the food into their mouths.

LURES: Barely taken on artificial lures, stink baits made out of anything from chicken blood to nitecrawlers on the ripe side.



CHANNEL CATFISH (*Ictalurus lacustris*)

Anglers hold this fish to be the sportiest member of the huge catfish family with more than 1,000 odd species.

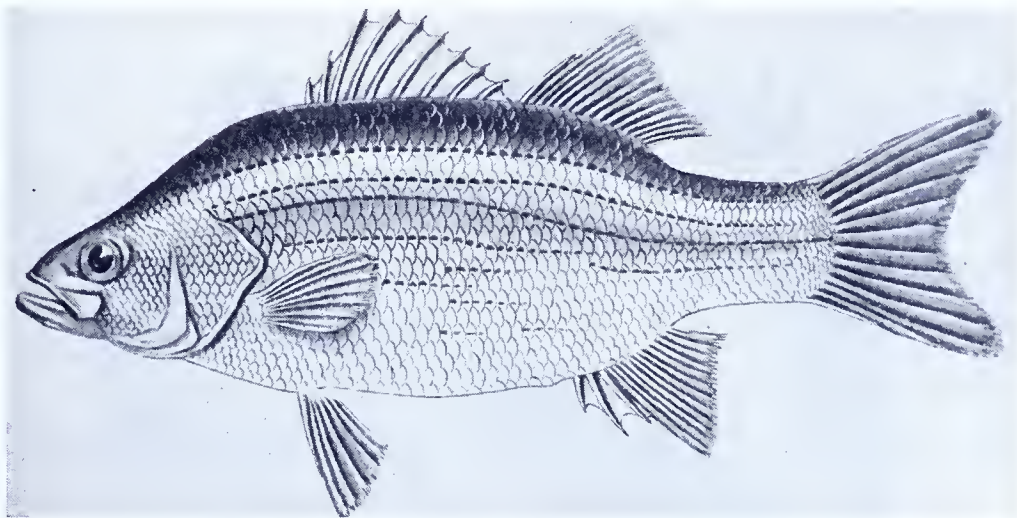
RANGE: Greater range than any other of the family in this country, found in Canada from Ontario to Manitoba, thence south to Florida and the Gulf States, also in northern Mexico.

CHARACTERISTICS: Usually slate gray along back, shading to silvery gray along sides with belly lighter than sides. Irregular shaped black spots are liberally sprinkled over entire body along sides from head to tail. Single spine of dorsal and pectoral fins extremely tough and sharp. Care must be used in handling or painful wounds may result. Barbels or whiskers on the channel catfish are quite long, adipose fin, near tail, smaller than on other catfishes. Like all members of the family it has no scales. Tail is forked to greater degree than other members of the family.

HABITS: Found in slow moving, mud-bottomed waters but actually prefers clear, clean, swift-moving streams. They spawn in the spring, usually in flowing waters, of rivers and smaller streams. There is a definite upstream migration at this time of the year.

FOOD: Usually feed at night and it would be less complicated to list foods a catfish WILL NOT EAT!

LURES: Anything with an obnoxious odor . . . shrimp, old ripe meat, nitecrawlers, etc. Channel catfish also strike lures meant for bass and other game fish, plugs, flies, streamers.



WHITE BASS (*Lepibema chrysops*)

Restricted in range the White Bass is not widely known but is one of the largest of the panfishes.

RANGE: From southern Ontario and New York State, westward through the Great Lakes region to Minnesota, thence south through the Mississippi Valley to eastern Texas and Louisiana.

CHARACTERISTICS: Over-all color is silver with a golden cast on lower sides. From the head to tail along each side, narrow dark lateral lines run the entire length of the fish. Four or five of these lines usually appear above the lateral line and three to five below it. Distinguished by the dark lateral lines mentioned above which indicates a close relationship with the salt-water Striped Bass which is similarly marked. Some authorities believe the salt-water Striped Bass became landlocked and that the White Bass is a small edition of its original forebears. The White Bass has two distinct dorsal fins which are separated and it has teeth on the base of its tongue.

HABITS: Equally at home in streams, rivers or lakes but prefers clean water. They are school fish, located in deep holes in rivers and lakes and apt to be found cruising on the surface. It spawns in the spring close to shore. No nest is prepared but the eggs, together with the milt are deposited in shoal water, then deserted by the parents.

FOOD: Favorite food is small fresh-water minnows but will feed on small worms, insects, larvae, mollusks, crawfish and other crustaceans.

LURES: Fly lures, small spinners, spoons, bucktails and pork rind, also small surface flies, worms, minnows and crawfish.

current. A long cast placed the plug on the far side of the main current. We give a free line and let the plug drift about twenty feet then we hold and retrieve about five turns of the reel handle. Again we give a free line . . . stop . . . then retrieve. This free line, hold and retrieve is used primarily to determine when the plug becomes snagged and stops drifting.

Continuing our fishing method a step further; we let the plug drift to about the middle of the current and then start a very slow retrieve, pausing occasionally with one minute stops. Our plan payed off. Two plump two-pound smallmouth landed into our creel via the slow retrieve and one minute stops accompanied by our favorite 350 Heddon Redhead Flutter and the Black (XWB).

Some of our best spin plugging for smallmouths has occurred in high roily waters. A 4½ pounder was taken from Octorara Creek last August 20, 1955. He fell victim to the Heddon 350 Yellow Perch Scale.

Our observations lead us to believe that the coal silt that formerly filled the waters of the Schuylkill, has been ground into the rock pores through the years. This black coloration eliminates light reflection from the river bottom. With this in mind we selected an orange colored plug for better visibility one gloomy October 1955 day. We had also noticed numbers of orange bodied sunnies and reasoned their gaudy coats must surely attract Mr. Bronzeback.

We hooked and lost three heavy smallmouths because the hook had not penetrated the hard bony mouths. One of these was the largest we had ever snagged in the mighty Schuylkill. We lost this monster while trying to beach him.

This orange colored Heddon 340 OS might be a wee bit too heavy to handle adequately on our light spinning tackle, it was necessary to jerk hard about three times on the strike. Perhaps a slight forward movement, permitting a little slack line, and then the backward motion would be more adequate. This slack line . . . hard jerk is usually sufficient to drive the hook into the mouth burying the barb.

Wading the shoreline again in November 1955, we landed two 18 inch smallmouths on this orange bodied plug. Examination of their stomachs showed them loaded with pink-shell crayfish. The intestinal tracts were packed with undigested pieces of these same shells.

We are convinced that fishermen can best fish the broad Schuylkill from the many wading vantage points along its shores, particularly those spots that are studded with overhanging bushes and large rocks. Numerous insects fall from the bushes into the water and attract the small fish upon which the larger bass feed. It is here that the old lunkers can be found, and in these hot spots the retrieve should be very close and parallel to the shoreline.

While we discovered the beautiful Schuylkill a lot later than George Washington you can bet your bottom dollar we are going to make up for lost time. The Schuylkill is now flowing clean again and all of us owe a vote of thanks to the combined efforts of the Schuylkill Valley Restoration Society, Honorable Grover Ladner, the sportsmen of our Commonwealth and an aroused public. Let's hope that all people will continue a constant vigil that the mighty waters of the Schuylkill will continue to flow clean.

the Dobson-fly

By A. M. ANTHONY



Bass fishermen, especially, should recognize one of their favored baits in these photos of the dobson-fly (*Corydalus cornutus*).

If you haven't already guessed it, you should see the close resemblance to the hellgrammite (commonly called hoejacks) you find under rocks along streams. The dobson-fly is the adult of the hellgrammite.

The male, pictured here, appears rather vicious, but the jaws are used merely to embrace the female in the act of mating.

The larvae are aquatic, but pupation occurs after the larvae crawl out of the water and seek earth, preferably under a stone. Eggs are deposited on leaves or branches overhanging water. The complete cycle from egg to adult is presumably three years.

Tobacco

juice

'hopper

By CHARLES K. FOX

AMONG other things, Superior is the name of a bass bug. Its brief history is not only interesting but spectacular. The conception of the finest bass bug several of us ever employed was the result of a special prescription for a very large trout.

The big brown would gobble up grasshoppers that were sent to him via his line of drift. On one occasion sixteen were consumed in short order, most of them big ones before the limit of capacity was reached; and after a rest of an hour he was good for six more. There was nothing gentle or dainty about his feeding activity. With each snatch of a natural, water was tossed in the air and it actually saturated the grassy overhang of his summer domain. Quite a spectacular sight!

Vince Marinaro and I developed something of an affection for the old boy. One of the reasons was the way in which he magnificently eluded our best efforts; yet he moved with regularity to seize the real McCoy. Here was a gourmet as well as a gourmand. We had concluded that the only sporting way to cope with such a noble fish—a big surface feeder—was to deceive him with a dry fly. Here was the possibility of a record trout on a dry—he was that big. One of us would fish over him while the other watched and now

and again tossed in another hopper to determine if he was still in business or whether he had been put down. Assorted subterfuge was employed: curve casts, long light leader, Michigan 'hopper, clipped deer hair 'hopper, plastic 'hopper, Neversink Skater Fly, etc., but he could not be fooled, this in spite of the fact that a large surface feeding trout is rarely ultra selective.

At this stage Bill Bennett entered the picture. He volunteered to create a "superior 'hopper," and Bill can really tie the highly specialized stuff. (He is the one who gave the fly tyer the wing-cutter). In a day or two he handed to each Vince and me a handsome, light, quill job hand painted and complete to the degree that it had legs, bulging eyes, a blunt face and hair antennae. Here was his answer to the critical fish.

I still have my fly. Vince lost his. He left it sticking in the jaw of the fish. On the day it happened, much less casting time was involved in the hooking of the big trout than in playing it. For over an hour Vince stuck with him, run for run and lunge for lunge, and the 5x gut-point was still intact. It became my assignment to net the fish, which was no longer capable of making a bona fide run. The wide square tail feebly broke the surface while some 30 inches away the mouth gulped for additional oxygen and groped for the stream-bed.

The natural place for the landing was in a little bay beside some high grass where I could conceal myself and prop the net on a bed of water cress.

Vince moved back a couple of steps, lowered the rod tip and started to slowly and steadily draw the fish within my reach. Each of us was to take his time and under no circumstances was I to go for him tail first. The head came up and the point on the end of the jaw could be seen. The 'hopper was in the corner of the mouth—the far corner. Never again do I ever expect to see such a wide back on a trout.

Suddenly there was a little snap and the leader bounced back at Vince and mockingly rested in a snaky coil at his feet. Broadback was gone—so was one of Bill's 'hoppers. We never again located the big trout. It is mere speculation that a brown caught the following season half a mile upstream which weighed 10 lb. 2 oz. was he.

Upon inspection of the leader it was obvious that it had been frayed and sawed by the tips of the big sharp teeth after it crossed the interior of the mouth.

If the fly had been in the other side of the jaw—but hold on, this story is about Bill's "superior 'hopper," premier bass bug. Early each fall I make what to me is a most important vacation trip. The attraction is Atlantic salmon in a New Brunswick river. The tackle is the same as that utilized for bass bugging—8½ foot 5¾ ounce rod, G B F floating line, 9 foot 7 pound leader and single action reel with backing. One does not make a trip to which he attaches such great significance without first checking tackle, and the perfect check is to take it bass bugging before packing prior to departure.

The slow flowing, flat, rich Conodoguinet Creek was the testing ground, a big wadable stream which lends itself to bugging. This may be the longest and widest creek in the world, for in any section of the land but Pennsylvania, it would be a full fledged river—65 miles long and 200 feet wide in the lower reaches.

From a loose assortment of bass bugs in a small box I chose a clipped deer hair job with glass eyes and a tail. When it did not produce I substituted a cork popper with tent-shaped wings. This fared no better, so out came a hair frog. After swooshing it around for some time without results it was decided to make another change. What to try next was the question. As I pushed around the contents of the box, Bill's 'hopper came into view. Actually it had been stored in the container with the bass bugs by accident—or by destiny. So "Superior" was given a new baptism of fire.

It cast well, landed on the water with a little smack; it floated in the surface, not on it; and when given a dainty twitch, the blunt head moved a little water. A tiny sinew of the current turned it sideways. Another twitch made it reverse ends. If there is anything I like in a surface lure, it is to get it swinging and turning—almost rotating—and the 'hopper could be made to do just that.

Due to the floating line and greased leader it picked off the water cleanly, without submerging, and with the aid of one false cast it was placed in the center of a ledge depression, right where it belonged. The little rings widened from its flat spat; then it was impelled with a sort of 'hopper kick, just as Vince had made his operate a yard or two above the nose of Broadback.

That did it. Amid a boil too big to fit into a wash-tub, the 'hopper disappeared and when the low rod tip was lifted, everything was taut. Of all the sounds in the world which have registered on these eardrums, the most satisfying is the assuring scream of a reel, followed by the crashing return of a leaping fish. In salmon fishing it is superb; bass do a creditable job, and once in a while it happens on a trout stream. At best though, it is the sort of thing which does not transpire just anytime one goes out fishin'. But there it was unexpectedly in all its glory.

Again the setting sun gleamed on the flat side of a leaping bass the proportions of which placed it into the category which local fishermen call "a ham." Another power run accompanied by some more of the sweet music. Shades of Broadback, the trout! The first bass with which the 'hopper tangled was a big one, but unlike Broadback the bronze fellow did not get away.

The second outing with the new bass bug was even more convincing, although contact with a big bass was not made. Cast after cast drew attention—the majority of them—from bass of varying size. Many moved under the lure and bumped it, and every so often one took hold so that the hook could be sunk home. On various occasions there were sequences of strikes on consecutive casts as bass toyed with the bug. Usually a little jerk of the 'hopper stimulated attention.

As shadows lengthened, activity continued. Any bass a foot in length or better made the reel sing, and it sung a lot on the trip to the big river—the Susquehanna.

From that time on, encompassing five seasons, Bill's "superior 'hopper" has been utilized as a bass bug on the Conodoguinet, the Juniata and the Susquehanna. It is at its best when the streams are low and clear and fishing in general is considered tough. Never, over this period of time, has it drawn a complete blank; always there has been action of some degree and some-

times of a down-right spectacular nature. Once and for all, it is established.

My contention down through the years has been that his honor, the stream smallmouth, is a fish which should be attracted, not deceived. The bright lure of odd shape and peculiar action, sometimes with hardware attachment, totally unlike anything of nature's creation, has been the best bet and the popular favorite. Now I am confused. This 'hopper is almost as close to being a part of nature as the one which spits tobacco juice. Who knows, maybe this is the rare combination of an attractor-deceiver to bring to the angler supplementary action.

Suppose that this bug is just half as good as I think it is. That still means that it will create a big hit. Bass waters can't hold up under great killing. It is possible to accurately estimate the number of legal sized bass a pair of brood fish produce in any water, and you can be well above 90% correct in your estimate—close figuring, this. Here is the way to appraise it. The supply of bass varies but little year after year in any given water. There may be plenty of them or a few of them depending upon the water and its accessibility to fishermen. Either there is a reasonable number of really big fish or none at all. Obviously then, one pair produces two bass—one for one of legal size. A pair of big ones has the potential to produce a pair of big ones. What happens then if anglers become more efficient? Something has to give and it will be the supply of bass or the anglers. It should be the anglers. If I am incorrect in my argument, then somebody is wrong in setting seasons and creel limits.

Let's make an agreement, just you and I. If you could produce the potent little 'hopper for your private use or induce some patient friend, to do so, would you in return for the lure, release most of the bass it catches? After all, you may want to return to the same place again and again and most certainly you would like to catch more fish from the stream or lake. The chances that you will ever be able to buy this bug are very slim, simply because a meticulous hand job of cutting, tying and painting is involved, which for practical purposes will make commercialization prohibitive. But for the hobbiest fly tyer it is different. Now, isn't that a fair bargain?

Well, here are Bill's directions to make his bug which he appropriately calls "the pontoon 'hopper" although it will always be the "Superior" to Vince Marinaro and me:

Tools needed, other than standard fly tying equipment:

Jeweler's saw for cutting body quills
Long needle (crotchet hook filed to a sharp hook)
Quill cutting block (miniature miter box)

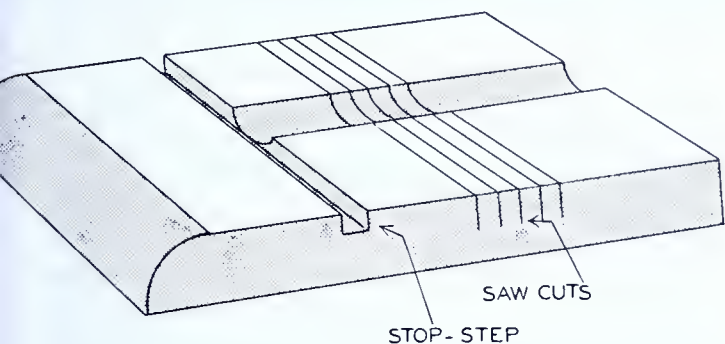
Materials needed:

Turkey quills for large hoppers—1½ inches and up
Goose quills for medium sized hoppers—¾ to 1¼ inch
Duck flights or ringneck feathers (metallic blue tipped) for use in making legs (pontoons)
Testors quick drying lacquer in the following colors:
Green, Yellow, Brown, Black and White
Clear hard top coat lacquer
Moose mane for feelers
4X white tying silk
Wide gap hooks—sizes 8 to 12
Bullet-shaped corks—¼ x ⅝

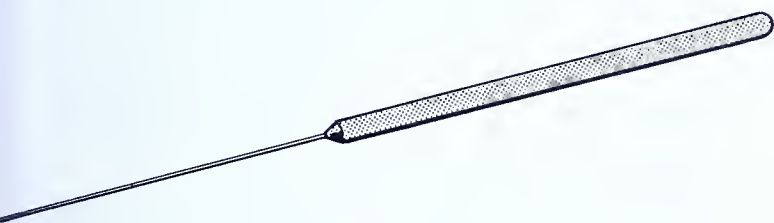
Preparation of materials:

After selecting the quills to be used, cut off feather portion to within three inches of butt with a large pair of scissors. Cutting the quill to actual tying size with scissors is not recommended for the reason that the larger quills will split under compression, making them useless. After the quills are rough-cut, the next step is

to cut them to tying lengths. This is accomplished by the use of a cutting or miter block which assures uniformity in length. A sketch of the miter block which I made for this purpose is shown below.



After the quills are cut to tying length, the insides should be cleaned of all pith. This may be accomplished more quickly if a hooked wire or needle is employed. The following is a sketch of a crochet needle filed to the desired hook shape which I use for this purpose.



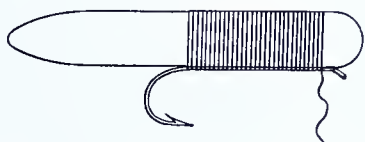
The body color of the natural grasshopper ranges from a bluish light green to greenish yellow. Variations of greens and yellows may be obtained with a little experimentation in dying time. I have experimented with various shades of yellow and green and find that the Tintex Maize Yellow and Nile Green dyes will produce the desired shades for use on the green or yellow bodied hopper.

Assuming that the tyer has completed all the preliminary steps associated with the construction of the hopper, including the cutting and dying of quill and that he has on hand sufficient bullet shaped corks (which may be obtained from your fly tying supplier), lacquers, and other materials hereinbefore listed, I now present the following step-by-step description of the tying technique for the hopper:

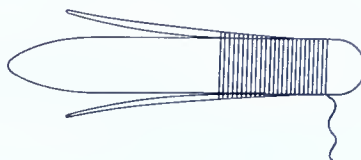


Cut off approximately $\frac{2}{8}$ inches from the cork and insert the cut, flat end of the remaining bullet shaped portion in open end of quill about $\frac{1}{8}$ of an inch. Since quill openings will vary in size, the $\frac{1}{4}$ inch cork may appear oversize. This is a distinct advantage since the cork may be squeezed or compressed while being forced into the open end of the quill, thereby achieving a more secure fit. Corks may be cemented after compression but is not absolutely necessary. The final painting seals cork and quill permanently.

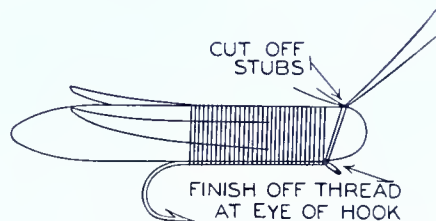
After quill is plugged, place quill on top of size 14 or 16 hook previously prepared with heavily waxed thread and wrap closely as shown in the following sketch:



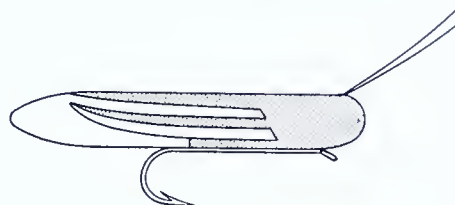
The next step is to select two smaller quills which have been dyed a rust color for the legs or pontoons. These are compressed or flattened at the open ends and bound tightly to the sides of the body as follows:



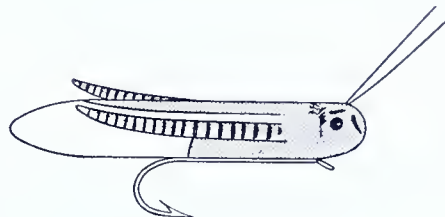
Two moose mane hairs complete the rough hopper. These are attached as follows:



Your hopper is now ready for painting, the first step being to paint the thorax, wing and upper portions of the legs olive green and brown, using the shaded parts of the following sketch as a guide:

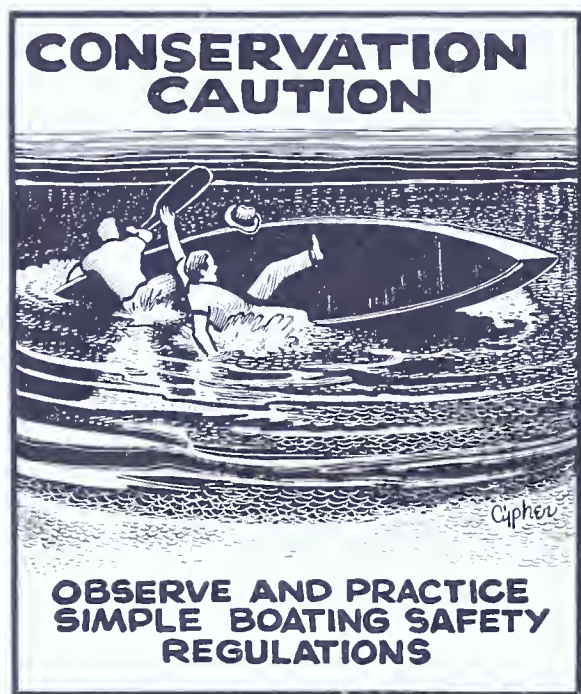


The hopper is completed with a few strokes of green and yellow lacquer at the head and by the addition of two black spots for eyes made with the head of a pen or brad. Your completed hopper should then look something like this:



NOTE: Bill Bennett is a member of the Fly Fisher's Club of Harrisburg. The above specifications were prepared for and distributed to club members. The delivery of a paper or a talk has been a part of the regular Monday luncheon program.

Conservation In Pennsylvania



R. Stanley Smith Re-elected President of Fish Commission

R. Stanley Smith, Attorney-Sportsman, of Waynesburg, was re-elected President of the Pennsylvania Fish Commission in its annual meeting today in Harrisburg. Albert R. Hinkle, Jr., of Clearfield, was named to succeed himself in the vice presidency. The meeting was then recessed until July 30, at which time the regular business session was convened. In accordance with Pennsylvania fish laws, Smith and Hinkle will serve in their capacities for another year.

The full 8-man board was present for this morning's session, all but one of whom were named to the Commission by Governor George Leader. Wallace Dean of Meadville, is the only carryover from the previous board. Appointed subsequent to June 1, 1955 were Gerard J. Adams of Hawley, Stanley Smith, Albert Hinkle, Charles C. Houser of Allentown, Joseph Critchfield, Confluence; John Grenoble, New Bloomfield; and Maynard Bogart of Danville.

What . . . No Dear?

The Northern York County Game & Fish Association reports it has on its membership roles the following . . . Bair, Fish, Fox, Trout, Wolf, Hare, Martin, Hunter and Fisher. The club is still rooting around trying to round up guys with handles like: Bird, Hawk, Coon, Dove, Pike, Rivers, etc., although anybody by any name is welcome to help with the work of the club.

Record Number of Anglers Fished the Paradise in '56

A record of 46,637 anglers was set at "Fishermen's Paradise," when the State Fish Commission's conservation demonstration project on Spring Creek near Bellefonte in Centre County closed its 24th season last Saturday. During the nine week special season which opened on May 11, a total of 71,119 brook, brown and rainbow trout were caught. Of the latter number, 9,828 were killed by the anglers.

Unofficial honor for the biggest fish taken this year was corralled by Sherwood Hoy of Millersburg with a 27 inch, 7 pounds, 13 ounce rainbow. The top catch among the 8,273 ladies registered was a 26 inch, 7 pound, 14 ounce rainbow caught by Bernice Moneski of Williamsport. To Joseph Stevens, age 14, of Minersville went the laurels for brown trout with a 26 $\frac{3}{4}$ inch, 8 pound specimen.

Lyle Elliot of Lewistown was runner-up in the brown trout division with a 26 $\frac{1}{4}$ inch, 8 pounder. The measurements of the largest brown trout caught by a woman were 24 inches, 6 pounds, 5 ounces. It graced the creel of Helen Wargo of Iselin, Pa. Merle E. Givler of Tyrone accounted for the largest brook trout at 19 $\frac{3}{4}$ inches, 3 pounds, 10 ounces.

The number of anglers registered this year exceeded last year's total by 1,895. However, the 1955 catch and kill records of 71,221 and 8,522 respectively still stand.

By way of comment when announcing these totals, William Voigt, executive director of the commission said, "This was not a good year at the Paradise from the standpoint of stream conditions. Heavier than average rainfall in the Spring Creek watershed and extensive farming without proper regard for soil conservation practices combined to present a high and muddy flow through most of the season. Considering that, added Voigt, we had a pretty good season."

Fish Commission Financial Statement to Appear in ANGLER September Issue

The annual financial statement of the Pennsylvania Fish Commission which was published formerly in March on a calendar year basis, will this year be contained in the September issue of the PENNSYLVANIA ANGLER on a fiscal year basis. The change has been made to coincide with the inauguration of a new accounting system effected for all State agencies by the present Administration in Harrisburg, early this year. The new system was in the process of development for several years.

The statement to be published next month will be accompanied by a supporting article by Joseph J. Micco, comptroller of the Fish Commission.

Fish Commission-Power Company Talks May Give Fishermen Better Access to Dam Waters via Boats

The Pennsylvania Fish Commission announced it had begun exploratory talks with officials of the companies operating Safe Harbor, Holtwood and Conowingo reservoirs and power plants in the lower Susquehanna River, looking to possible increases in, and improvements of, access points for day use by boat fishermen.

A statement by William Voigt, Jr., Executive Director of the Commission said:

"In a very friendly and cooperative atmosphere, officials of the three power concerns met at Safe Harbor village, July 11 with Cyril Regan, chief of land acquisition for the Commission, and myself, to explore what, if anything, might be done to provide additional and improved public fishing access to the reservoirs.

"This was a preliminary consultation in every respect, and no commitments were made by any of the parties concerned.

"When explorations have reached the appropriate stage, if they do, results are expected to be laid before the Fish Commission and the proper officials of the power companies for approval, modification or disapproval.

"The Commission representatives told the power company officials that the outlook portends increased pressure upon all Pennsylvania's public fishing waters, as time goes by. Also pointed out was the likelihood that safety and sanity in the utilization of these waters may be enhanced by provision for adequate places where fishermen may launch their boats, park their cars out of the way of other users, and then take their boats out of the water at the end of the day's sport.

"Costs of adding access sites were not discussed, but the Commission staff is hopeful that such a program, if adopted, may qualify for federal aid under the so-called Dingell-Johnson act.

"The power company officials expressed positive interest in the objectives outlined, and designated three officials to consult with Commission personnel in future discussions and investigations of specific locations. These were Messrs. Paul M. Hess of the Safe Harbor Water Power Company, Conestoga; Earl S. Mathers of the Pennsylvania Power and Light Company, Holtwood; and Paul M. Lefever of the Susquehanna Electric Company, Conowingo, Maryland."

Fish Commission Restocks Delaware Canal to Restore Hurricane "Diane" Damage

The completion of the fish restocking program by the Pennsylvania Fish Commission marks the total restoration of the "Diane" ravaged portion of the Delaware Canal, which earlier was repaired from Easton to near Bristol by the Department of Forests and Waters at an approximate cost of \$315,000.

As breached banks and damaged locks were repaired and water again channeled into the various stretches of the canal, they were repopulated with fish. According to Dewey Sorenson, Superintendent of Hatcheries for the Fish Commission, a total of 15,290 fish was consigned in the process. The species represented were: catfish, 7,750 between 7 and 14 inches; sunfish, 500 between 2 and 3 inches; yellow perch, 2,000 between 2½ and 3½ inches; bass, 4,980 between 3 and 4 inches and 60 between 15 and 16 inches.

The canal was just one of the waterways of eastern Pennsylvania that suffered severe damages when the backlash of hurricane "Diane" poured an unprecedented deluge on the mid portion of the Delaware River watershed. Since that time, the Forests and Waters Department has had crews at work both in the Pocono area and along the canal. And as areas were declared again capable of supporting fishlife, stocking trucks of the Fish Commission moved in and planted their cargo.

Gouldsboro Lake Now Open for Public Fishing and Recreation

Perpetual fishing rights for the public were assured on Gouldsboro Lake, sometimes referred to as North Jersey Lake, on the Pike-Monroe County Line near the town of Gouldsboro, with the recent acquisition of the lake and most of its shoreline by the Pennsylvania Fish Commission.

Fuller recreational use of the area is now also assured upon the announcement by William Voigt, Jr., Executive Director of the Commission, that the legal formalities of transferring control over a portion of the shoreline holdings to the Department of Forests and Waters are in the process of completion. The latter department earlier acquired title to adjoining lands which were a part of the Tobyhanna Military Reservation, when the Department of Military Affairs declared them surplus.

Under the provisions of Pennsylvania fish laws, the Fish Commission may only concern itself with fisheries management. The scope of the Forests and Waters Department includes the creation and maintenance of additional types of recreational facilities. The pending co-management of the area was entered into to make possible added uses of Gouldsboro Lake and its environs, including bathing and picnicking.

Included in the plans is a public access road along the west shore of the lake off U. S. Route 611, that will course by the proposed bathing beach, picnic area, public docks and boat launching site. Sanitary facilities are also contemplated. All of these are to be constructed by Forests and Waters.

The tract, comprising 325 acres, according to Cyril Regan, Commission land acquisition chief, was acquired by the Fish Commission with the aid of federal excise tax funds on fishing tackle under the provision of the Dingell-Johnson Act. Of the total area, 278 acres is water running to a depth of 18 feet and populated by pickerel, bass, walleye, sunfish, perch, catfish, suckers and carp. The lake is fed by springs and a small brook, and is drained by a small tributary of the Lehigh River.

Conservation Across the Nation

Fish Commission-U. S. Soil Conservation Service to Coordinate Watershed Protection, Flood Control of Penna. Waters

In a series of meetings yesterday in Harrisburg, staff members of the Pennsylvania Fish Commission and its six regional fisheries managers, conferred with representatives of the U. S. Soil Conservation Service and the State Sanitary Water Board to effect a closer coordination on matters concerning the waters of the Commonwealth.

In a morning session held in the Dauphin Building, Ivan McKeever, state conservationist of the USSCS, outlined the opportunity provided in Public Law 566, the "Watershed Protection and Flood Prevention Act" passed by the 83rd Congress, to make better fishing a part of each small watershed project that may be undertaken in the State. The act provides for Federal participation, on a matching basis, in the costs of such projects initiated by local groups. Also participating in the discussions that followed were representatives of the State Soil Conservation Commission, Department of Agriculture, and the Department of Forests and Waters.

Riparian Rights Triumph

Perhaps strangely to many people, there is much debate among those whose responsibility it is to frame rules and regulations for legislative action concerning the status of fishing (and other recreational uses) as a beneficial use of water. An opinion of far-reaching implication in this matter has recently been delivered by the Arkansas Supreme Court. In effect, the opinion sets forth a four-point set of "general rules and principles" which specifically recognizes fishing and recreational purposes as beneficial uses equal to all other uses except those for strictly domestic purposes.



The Supreme Court's precedent-setting action reversed a decision by a lower court in a case involving use of narrow, 3-mile long Horse shoe Lake, near Augusta, for fishing and recreation on the one hand and for rice irrigation on the other. The lower court had refused to issue an injunction to stop the pumping of water from the lake for rice irrigation upon the complaint of a fishing boat concessionaire. He charged that the water level had been reduced to an unsatisfactory level for fishing and recreation. The Supreme Court held that the lower court should have enjoined the pumping of water when the level falls to a certain elevation above sea level (189.67 feet) because the rights of appellants would be unreasonably interfered with at lower levels.

From where we sit this looks like a major triumph for the doctrine of the rights of riparian proprietary use on non-navigable streams and lakes.

This doctrine now emerges as the great guardian of the sportsmen's interests in the principle of multiple use of water areas. It is a decided contrast to the treatment that sportsmen may expect their interests to receive in states which adopt the recently promoted idea of the rights of prior appropriation of water (first-come, first served, devil-take-the-hindmost attitude toward competing water-use interests so rampant in the West). Under this latter principle sportsmen will get little consideration except on public land areas. Fortunately for Westerners, where this principle is long established, there are vast public land areas on which to hunt and fish. In the East, the reverse is true. If the principle of riparian rights is abandoned in this region, public fishing and hunting will all but disappear!

The action of the Arkansas Supreme Court is a vital one for eastern sportsmen in view of the current agitation in many southeastern states to adopt the fallacious principle of prior appropriation of water rights. Proponents would change this for the more democratic and equitable water-use principle of riparian rights. The opinion states, in part: "When one lawful use of water is destroyed by another lawful use the latter must yield, or it may be enjoined." The opinion holds further that: "Other than [use of water for strictly domestic purposes—which is held superior to other uses] all other lawful uses of water are equal. Some of the lawful uses of water recognized by this state are: fishing, swimming, recreation, and irrigation."

Serious Defects

In an article in *Soil Conservation* for February, C. E. Busby, a water rights specialist for the U. S. Soil Conservation Service, summarizes the main objections that many conservation leaders have against the western system of prior appropriation of water rights. These

are: (1) the system is too rigid, (2) too much emphasis is placed on security of investment and state-wide control of development and use, and (3) *the system is too inflexible to permit reservation of supplies to meet future needs, especially for non-depleting uses of fish, wildlife, and recreation.* (Italics ours)

Sportsmen in eastern states that are developing water policy or changing their water laws should watch out for these evils if they want to enjoy outdoor sport in the future. The system of riparian rights, now established in eastern states laws, offers genuine safeguards along these lines. Let's not look a gift horse in the mouth—or there may be no gifts in the future!

Michigan Pinched, Recommends

License Fee Increases

Michigan, like many other states of a progressive bent in the management of its game and fisheries resources, is experiencing a financial pinch. And to resolve the problem, the Wolverine state has heard its Conservation Commission recommend license fees increases in all categories. In Michigan, all facets of the outdoors sports are headed up by the single agency. Percentage-wise, increases range from 12½% on the non-resident fishing license to tripling the trout stamp fee.

Among the hunting fees which include separate permits for resident and non-resident small game, big game and archery and trapping, are increase ranging from 14% to 150%. Camping permits would rise from \$3.50 to \$10.00.

In addition, the Conservation Commission renewed its recommendation for a fishing license requirement for Great Lakes waters, and further recommended a license for its anglerettes over 17 years of age at half the regular fee. Presently, the wives of licensed anglers may fish on the husbands license at no extra charge, while non-wives pay a full fee.

Legal Precedents in Recreation

Two recent court decisions involving the right of the public to utilize non-navigable waters for outdoor recreation such as fishing, boating, swimming, etc., provide significant legal precedents in litigation over these matters.

In the so-called "Angle Lake Case" the Washington State Supreme Court held that all persons who legally enter upon a non-navigable lake have a right to commonly use all waters of the lake. John A. Biggs, State Director of Game, indicates that the decision has the effect of guaranteeing the right of the public to fish on the several thousand lakes of the state, provided their entry thereon is lawful, as by means of the several hundred access areas owned by the Department of Game on waters of the state.

In a Michigan case, a court decision establishing the right of the public to boat and fish on Lake Ann in Presque Isle county is the first involving a relatively small stream. It is expected to set an important pat-



tern for decisions in other cases involving public use of inland waters. In this instance Judge Phillip J. Glennie ruled that both Lake Ann and the unnamed stream connecting it with the Ocqueoc River had been used by the public for upwards of 65 years for boating and fishing and ordered removal of a barricade erected to exclude the public.

Tension

According to an item in *Newsweek* for May 14, Dr. Kenneth E. Appel, president of The National Commission on Mental Health, reported in a forum held in New York on anxiety and tension, that nervous tension is "a prime mover in all the principal causes of death." It was noted that coronary attacks, high blood pressure, ulcers, arthritis, and alcoholism, all diseases associated with tension, are increasing rapidly. Many doctors are reported to believe that emotional factors can even cause cancer.

Sport fishing, as a near-perfect antidote for excessive nervous tension, is rapidly assuming stature as a key factor in the national welfare.

Opening Day

One of the best of the many opening day comments, this one from a column by Red Smith in the *New York Herald Tribune* for May 1:

. . . It is an article of faith that fish are by no means essential to fishing, but evidence of their presence does add something to a sport that is almost perfect without them. . . .

Free-Loaders

The laws of Mississippi permits about 43 fishermen out of every hundred to use the fishery resources of that state without contributing to its maintenance and improvement.

Too many sportsmen mistake looking for seeing, listening for hearing, observation for understanding, and opinions for thinking.

Notes

from THE

Streams

"Gangway, Please!"

On approaching Shaeffers Mine Hole at Ironton recently on regular creel census work, I noticed a halfgrown ground hog at the side of the road. Its coat was in very poor condition and I stopped the car to take a good look at it. Showing its teeth, it headed for the front tire as much as to say, "Get going, Bud."

In taking the water temperature at Shaeffers Mine Hole, a large bass came up to within two feet of the thermometer as if to take a look at the mercury.

—Harvey D. Neff,
Lehigh County

"Caught in the Act"

While stocking Mill Creek with trout, I had dumped one bucket, and on the second trip with another bucket, I heard a rustling in the grass. Thinking I'd dropped a fish, I investigated and found a water snake about two feet long with a trout half his length. He had the trout by the back of the neck and was waiting for it to stop struggling. It made its escape and the trout seemed to show no ill effects when I put it back in the creek. I wonder how many fish are lost each year to snakes, when the water is low.

—Richard Abplanalp,
Mercer and Lawrence Counties

"Just Normal"

The opening of walleye season on May 30, 1956 made no appreciable difference on the amount of anglers fishing the Allegheny River in my district. The trout streams are now reaching normalcy for the first time since the season opened. The take of trout has been from fair to good.

—Norman L. Blum,
Forest and Clarion Counties

"Baseball Affects Fishing"

I have noticed this year while the Pittsburgh Pirates were winning ball games, the fishing pressure on my Butler County streams dropped at least fifty per cent when the Pirates are playing at home.

—Clifton E. Iman,
Butler and Beaver Counties

Litterbug Contest—What an Idea!

I would like to report on a Litterbug Contest the Warren Field and Stream Club sponsored at my suggestion recently. It was for the 5th, 6th, 7th and 8th grades of the Warren Schools.

The results were so excellent both from a "message" standpoint, as well as an artistic achievement, that I wish there were some way of displaying the posters to more people.

The winners and several runners up were displayed in local store windows, and the public was so impressed, I have been hearing about it from many sources. The work was really outstanding.

First prize winner was both an eye catcher, and thought provoking, being a drawing of a kangaroo, with her young in her pouch, and a simple but potent . . . "Keep Your Litter in A BAG!" Prizes were a \$25 War Bond, \$10, \$5, and several of \$1.

—Warden Kenneth G. Corey
Warren County

Ketcha Me—Ketcha Him Too!

Fish Warden Tony Lech still gets a chuckle from a story, which he takes pride in telling, to illustrate that all is not work. A few years ago he was traveling in the neighborhood of Frackville, near the Little Mud Run creek. As he approached a fisherman . . . the old gent turned around and said, "Better watch out, maybe a warden comes."

"Why," said Tony, "does he come this way?"

"No can tell," said fisherman. "He no good, he come from Shenadoor. Him just made two Mahanoy City men pay fines yesterday."

"What's the matter with that?" said Tony, laughing to himself.

"Why, me no got license," said the fella, speaking in broken English.

"That's fine," answered Tony Lech, "I'm the warden."

"Cripes," shouted the frightened man, "someone pointed out wrong warden to me. Vait a minute, I got buddy. Hey Joe, come here." His buddy came from behind a bush and was he surprised to hear his partner say, "Ketcha me—Ketcha him too." Both were fined \$25.00 each and costs.

"Nothing To Get Excited About"

The walleye fishing at Pymatuning Lake was poor the first two weeks of the season. After the weather warmed up, many fine catches were made and they are running good for size and are exceptionally fat this year. The May 30th opening on the other waters did not bring out very many fishermen. Checked two tagged fish from Conneaut Lake where the opening day for bass and other game fish was poor. Most of the fishermen were plugging for bass while a few were still fishing with minnows. There were 57 boats on the lake at 3 A. M.

—Edward O. Pond,
Crawford County

"The Golden Hook"

I was shown the results of an experiment by a Warren County farmer this month, which is very interesting. He is raising trout bait in the form of Golden meal worms. He started them in ordinary wheat, then when they are large enough to see with the naked eye, he transplants them into oatmeal.

He does this during the winter months as a hobby. Not being a fisherman himself, he gives them to his friends.

—Kenneth G. Corey,
Warren County

"The Bat Hung Low" and "The Snake Struck Twice"

On June 5 I stocked First Fork Sinnemahoning Creek. While patrolling stocked waters, I noticed something hanging from the limb of a butternut tree. When I got close enough to determine that someone had lost a string of wet flies on a limb of the butternut. The end fly hanging from the tree and on this fly was a bat. No doubt the bat had seen the fly hanging in the air and thought it was the real McCoy. The bat had been dead about 24 hours.

While fishing in vicinity of Costello, Pa., on Sunday, June 24, Wade C. Strickland, 16½ Euclid Ave., Bradford, Pa., was digging worms along the stream with his hands. While in the process of getting worms he was struck twice on the same hand by a rattlesnake. At last report, Mr. Strickland was a pretty sick man.

—Kenneth Alex,
Potter County

"Bowmen Having Field Day"

The present day trend to liberalize fishing regulations in Pennsylvania has taken another step forward, and is receiving popular support. With the enactment of the bow fishing law, an entirely new sport has been created in the state. In addition to the enjoyable sport furnished by this type of fishing, many carp are being removed from our waters, which in turn will be beneficial to our streams.

Previous to the enactment of this law, many persons were doubtful if the bow would prove an efficient device for the taking of carp. But the bowmen have lost no time in proving it to be effective with a little practice. To date, catches of seven carp per day have been recorded, with the largest weighing 32 pounds. With success such as this, this type fishing will continue to grow.

—Harold Corbin,
South Central Division Supervisor

"Trout Secondary"

There has been less trout fishing in the northwest division than I have ever seen during the month of June. Walleye fishing has been excellent at Pymatuning Lake, and it seems that the majority of fishermen would rather catch walleyes and panfish than trout.

—S. Carlyle Sheldon,
Northwest Division Supervisor

"Walleyes at Home in Gordon"

June 2, 1956, at Gordon Lake, Bedford County, 21 fishermen were fishing for walleyes. They fished 86½ hours, caught 46 legal walleyes, largest was 27 inches long. The fish were all taken from one section of the lake. I feel that this is the largest catch of walleyes ever taken in this amount of hours fished.

June 23, 1956, I counted 11 walleyes caught and released that were less than 12 inches long. This I feel is very good, for it shows that the walleyed pike do reproduce in this body of water, the Gordon Lake.

—William E. McNay,
Bedford County

"Room For Improvement"

Motorboat activity in this district, especially in the Raystown Dam area, continues to increase. One collision this month has brought into very sharp focus, the need for rigid control of boating activities.

—Richard Owens,
Huntingdon and Mifflin Counties

"Fishermen Approve"

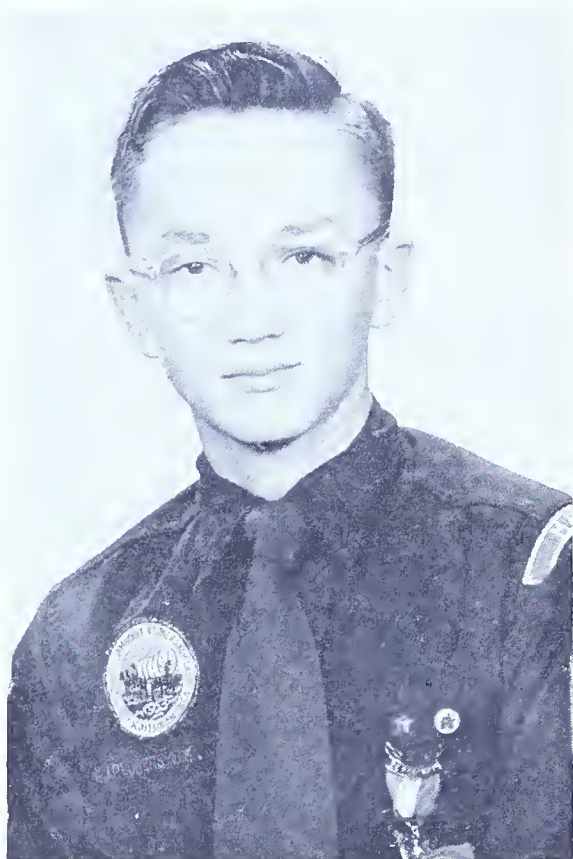
In my district there have been many comments on the stocking program, all in favor of the system used this in-season. On Shermans Creek, the last stream to be stocked with trout, I received a lot of favorable comments, suprisingly too, many of them came from fellows who were wearing patches on their britches. Have only received three real gripes.

"Fisherman 'Bats' 1,000"

While talking with a fisherman recently, he told me while fly fishing one evening, a bat grabbed the fly as it settled to the water. Bat and fly were both retrieved.

—Joseph S. Dick,
Somerset County





RANDALL TEAF

Newtown Square, R. D. 1, Penna.

Mr. C. Robert Glover, Chief
Conservation Education Division
Pennsylvania Fish Commission
Harrisburg, Penna.

Dear Sir:

I am sorry I did not get this letter off to you sooner. I just got back from George School last week and I had to go to camp to set up a Conservation program which I will have charge of this year, at Camp Delmont, Green Lane, Penna., for Explorer Scouts from Delaware and Montgomery Counties. This program was started there last year after I returned from the Junior Conservation Course at Penn State and it was quite successful.

I think the enclosed program will give you some idea of the Conservation material covered. This is a combination of the information I received from three main sources, although in addition I have read all the pamphlets from state and government sources that I could get hold of.

The three main sources were:

1. From the 36 day Junior Leadership Training Course conducted by the Boy Scouts of America at their Philmont Scout Ranch, Cimarron, New Mexico, which I took in 1954.
2. In June, 1955, I took the two weeks Junior

Conservation Course given at Penn State. This was an experience I will never forget, because the material was presented in such an interesting way by an enthusiastic and well-trained Staff.

3. To this was added the information I gained from the Third National Conference of Young Outdoor Americans this past spring, and which I will summarize below:

Under the general heading of "Building a Better Outdoor America," 96 representatives from the Boy Scouts of America, 4-H Clubs and Future Farmers of America met at Sioux City, Iowa, April 17-20, to participate in a series of youth-conducted sessions and conferences planned "to develop youth leadership in the resource conservation field." Victor Cappucci, a F.F.A., and I, represented Pennsylvania.

Four principal subjects were assigned for discussion by the delegates who were divided into four equal groups. Two hours were allotted to each group for the discussion of each major topic, then the groups were rotated, allowing each delegate to participate in all four groups.

Adult "specialists" were on hand to answer questions but did not otherwise participate in the meetings. This kept the discussions on a "youth" level.

Soil conditions, problems and needs, received special attention this year, with the following men as technical advisors; under the leadership of:

Dr. B. K. Barton, Conference Manager, and Coordinator of Conservation Education for the State of Illinois.

Roland F. Eisenbeis, Supt. of Conservation, Cook County Forest Preserve District.

Paul Bolton, Senior Sanitary Engineer, Kansas City Water Supply and Water Pollution Control Program.

Professor L. E. Clapp, Extension Soil Conservationist, Iowa State College.

George W. Worley, State Conservation Commission, Des Moines, Iowa.

C. N. Mattison, Forestry educational consultant, div. of inform. and education, forest service, USDA.

In connection with soil conservation, a field trip was made to the little Sioux Falls Experimental Basin to show the work being done to control flash floods with resulting erosion. We also visited a meat packing plant.

Other topics discussed were:

1. The situation in the U. S. and the world, regarding the present balance between food supply and demand.

2. The needs for recreational land. Are the present national and state parks, public hunting and fishing areas adequate? How can national, state and local policies plan a proper balance between demands for land use and recreational needs?

3. How does zoning affect the problems of conflicting interests in land use?

I was most impressed with the frank exchange of problems and ideas among the delegates, coupled with

the realization that conservation of our natural resources whether they be land, forests, streams or wildlife, is a challenge and a source of deep concern to all America. Some of the Future Farmers at the Conference, were really Farmers of Today, married, and with their own farms—in some cases very large farms in comparison with our own Chester County acreage, but their problems of water runoff, gully control, soil erosion, stream pollution and lowered water tables are the same as those we face in the Brandywine Conservation Area.

We are fortunate though in having so many sources of available help. Through our State Conservation Commissions, State University Extension Schools, Federal and State agencies, Sportsmen's Clubs, such as the Izaak Walton League, and local conservation groups, such as the Brandywine Valley Association, expert advice is available to all who are sincerely concerned with building a better outdoor America.

I certainly am grateful to the Izaak Walton League of America and the Studebaker-Packard Corporation for setting up this Conference and for making it possible for me to attend as a representative of the Boy Scouts of America.

I will be seventeen years old in August, and am a Junior at George School, George School, Penna., where I am taking the Science Course hoping to go to Penn State University and take Forestry there.

I was left fullback on the Varsity Soccer Team, and was on the Varsity Basketball and Track squads. Soccer is my favorite sport. Last Christmas vacation I was invited to attend the Soccer Forum conducted by Glenn Warner, Coach of the Navy Soccer Team, at St. Petersburg, Florida, and was chosen to play in the North-South Sunshine Soccer Bowl game there.

I have been in Scouting six years and am Junior Asst. Scoutmaster of Media, Troop 2, Valley Forge Council, and am an Eagle Scout with Silver Palm. I was a representative of our Scout Region at the World Jamboree in Canada last August.

Stamp collecting and model railroading are my hobbies, but soccer, scouting and conservation are my main interests.

My grandfather, H. Morris Teaf, was my first inspiration along conservation lines. For many years he supervised the stocking of fish in the Wissahickon and one of my earliest memories was of helping him empty "cans" of large and small fish in that stream, and listening to him tell the need for conserving all our resources.

Sincerely,

Randall Teaf

Mehoopany, Pa.

Mr. C. Robert Glover, Chief
Conservation Education Division
Pennsylvania Fish Commission
Harrisburg, Pennsylvania

Dear Sir:

I want to forward this report to you on the Young Outdoor Americans Conference held at Sioux City. Randall Teaf and I represented Pennsylvania at the conference.

My name is Victor Cappucci, Jr., I am twenty years



VICTOR CAPPUCCI, JR.

old and I live in Mehoopany, Pennsylvania. I graduated from Tunkhannock High School in 1954. During the time I was in school I was enrolled in Vocational Agriculture and a member of the FFA. There are several things I like to do in my spare time but my main hobbies are swimming and hunting. I am engaged in dairy farming and Vice President of our Pennsylvania State Association of FFA.

I was selected by the department of Public Instruction at Harrisburg to represent Pennsylvania and its Future Farmers at the Young Outdoor Americans Conference in Sioux City, Iowa. I was very thrilled and honored to be selected as a delegate to the conference and a guest of the Izaak Walton League of America. All expenses were paid by the generosity of the Studebaker Packard Corporation.

Upon arriving at the conference I met many other Future Farmers, Boy Scouts and members of the 4-H Clubs. I enjoyed myself immensely at all times while at the conference as there were many banquets and interesting tours planned. One of the tours that proved to be of great interest was our trip through the Little Sioux Water Shed which stretched for miles and was under construction for the purpose of preventing floods. At the discussion periods of the conference, boys and girls from all over the nation put their thoughts and ideas together in planning and discussing the problems of our local, state, and national groups; in striving for greater protection and use of our soil, woods, water, and wildlife which is vital if we want to pass on to the next generation health and prosperity so that our America may continue to be the greatest nation on earth.

Sincerely,

Victor Cappucci, Jr.



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PENNSYLVANIA

ANGLER

SEPTEMBER 1956

PENNSYLVANIA FISH COMMISSION



Today, Lord, to Thy woodland streams we come,
To fish, to refresh our spirits,
To seek Thy counsel and Thy aid.
This world—the man made part of it—is too much for us.
We find our lives enmeshed,
Our spirits mired in futile patterns of our age.
Machines run on; we can't keep pace,
For machines have no need to stop and pray.
We need time, Lord, to seek Thy face,
Quiet in which Thy voice is heard.
In our eagerness to change Thy handiwork,
We leave no place to flee from man made tensions,
Or seek surcease from grief too deep to bear alone.

Hence, today, like men of old in Galilee, we fish again.
Appear to us as Thou did come to those who fished before.
Restrain Thou, Lord, our restless motion,
That we may pause and hear and see.
Rest our eyes on pictures Thou hast painted;
Teach us love for art which Thou has wrought.
Let Thy mountains speak Thy greatness, remind us of Thy majesty.
Let Thy rushing leaping waters tell of Thy unchanging law.
Out of these, Thy tabernacles,
Speak Thy truth, and free our minds.
Soothe our spirit, renew our strength,
And forgive our sins.

Today we go fishing. Deny us not some joy,
Or thrill, beyond our just desert.
One lone leaping rainbow feeding,
Where the currents swiftly move;
Or a brace of dazzling beauties,
Lurking deep in waters still.
Fish in creel are not our passion;
Much less than limits will suffice;
Yet we shall be less than human,
If our yearning we suppress, and say not;
“Lord, let some fall prey to our skill—or luck,
Just some rash and foolish youngsters
Who refuse to learn Thy wisdom,
Choosing man made baubles over what Thy providence supplies,
Or better still, some aged fellow, moss on back,
Whose days are finished, and eyes too dim to see Thy truth,
No longer fit to stock Thy waters, Lord,
Some two or three of these might do.”

But if, perchance, we fish til
End of day with still no prize within our creel,
Then idly boast of fish not caught or deeds not done,
Have compassion on our lying, Lord, to those
Who understand not us
Who also cast for other things than fish.
Now day is done; we've fished again—
Need we ask more, though nothing's landed?
So turn we homeward—hungry, weary, but with burdens lifted;
And our hearts send up this prayer,
“Lord, save the fish, the forests, rivers, lakes and mountains
For Thy countless million children throughout eternity
Who need draw near to Thee.”

**COMMONWEALTH OF
PENNSYLVANIA**

**HON. GEORGE M. LEADER
GOVERNOR**

★

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REGIONAL WARDEN SUPERVISORS

Northwest Region

**CARLYLE S. SHELDON
Conneautville, Pa.; Phone 3033**

Southwest Region

**MINTER C. JONES
361 W. Lincoln St., Somerset, Pa.;
Phone 5324**

North Central Region

**C. W. SHEARER
200 Agnew St., Mill Hall, Pa.;
Phone 375**

South Central Region

**HAROLD CORBIN
521 13th St., Huntingdon, Pa.; Phone 1202**

Northeast Region

**RALPH O. SINGER
456 Main St., Honesdale, Pa.;
Phone 1485**

Southeast Region

**JOHN S. OGDEN
York, Pa.; Phone 47-3028**

PENNSYLVANIA ANGLER

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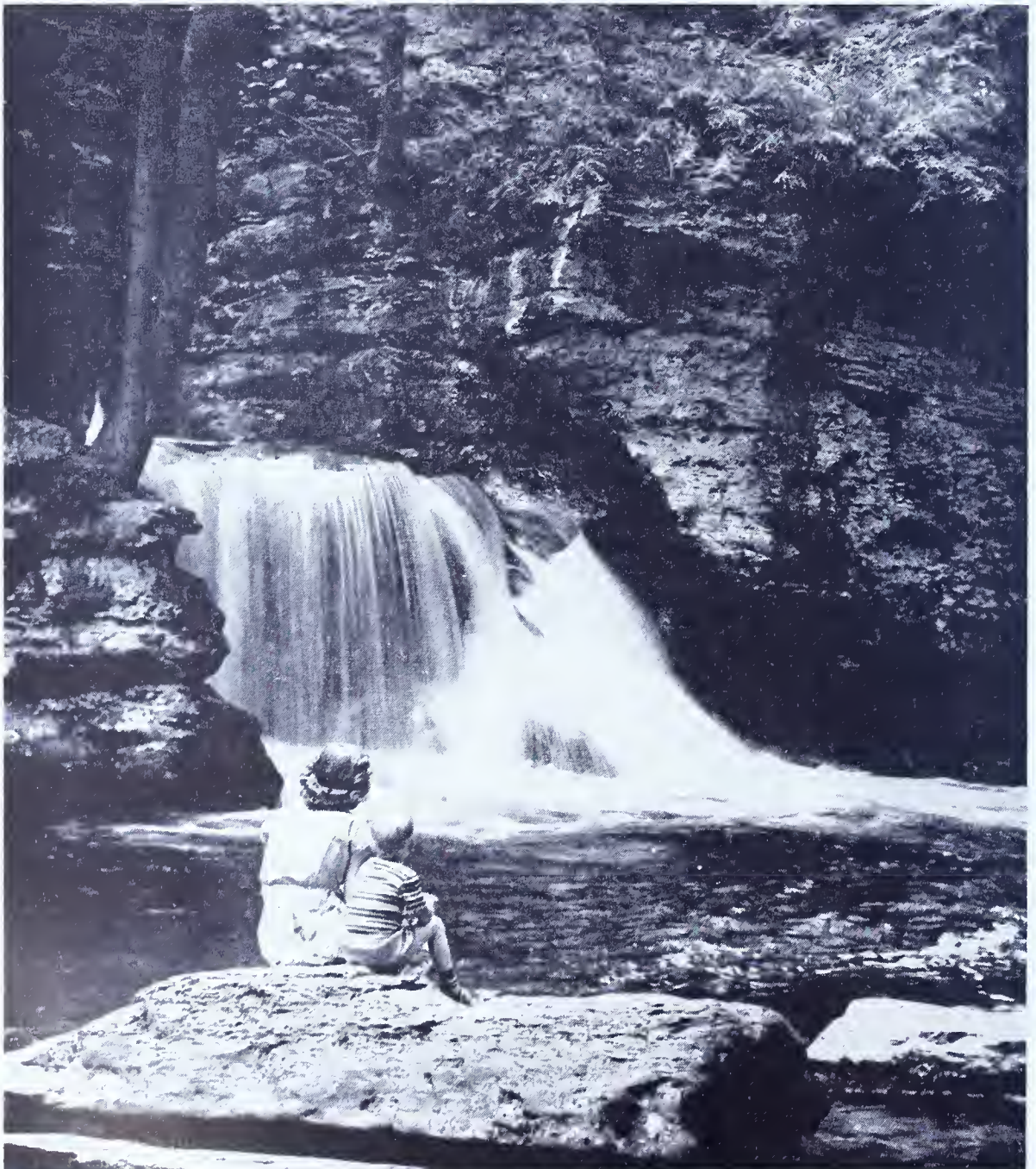
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Amusin', If Not **C**onfusin'!

By JOHNNY MOCK



THAT'S probably what Little Abner would say were he to look over the names given to Pennsylvania's streams by our forefathers.

One often wonders what prompted the designations. In other instances there was a good reason for the term, perhaps because of a landmark; the presence of an animal; some unusual occurrence; to honor a distinguished citizen or commemorate a particular occasion. Certainly there was an incentive for the various names. In the following paragraphs we will mention a number of them.

Butler County has a Scholars Run; Lehigh County, a School Creek; Lancaster County a Meeting House Run; Crawford County, a Church Run; Erie County a Temple Creek; McKean County, a Chappel Fork; Warren County, a Priest Hollow Run and Forest County, a Minister Run. To these we may well add St. John's Creek, or Ascension Brook in Luzerne County and St. Patrick's Run in Washington County.

In the days of the pioneers, mother nature provided the principal source of power through harnessing the current of flowing waters, hence it was only natural the term "Mill" be used more often than any other, there being 53 Mill Creeks, 12 Mill Runs, 2 Mill Brooks and 1 Mill Branch, indicating how those oldtime enterprises were part of the community.

Next in popularity came "Pine" being affixed to 28 creeks and 35 runs. That our waters once teemed with trout is evidenced by the 37 Trout Runs found throughout the state, along with 5 Trout Creeks, 2 Trout Brooks and 1 Trout Fork. Strange as it may seem, there isn't a single stream named after the black bass, but there is a Pike Creek in Luzerne County, a Pike Run in Washington and Westmoreland counties and a Salmon Creek in Forest County.

Other finned dwellers of our waters are given recognition in Catfish Run, Clarion County; Carp Creek, Schuylkill County; Sunfish Run, Allegheny County; Minnow Run, Fayette County and Crab Run, Butler County. Also an Oyster Creek in Elk County, though why, we haven't been able to learn.

Lebanon County has a Goldmine Run; Lancaster County a Silvermine Run and Dauphin County an Iron Mine Run. In Tioga County there is a Frying Pan Run; in Cambria County, a Teakettle Run; in Clinton County, a Cook Run; in Luzerne County, a Kitchen Creek; there are 9 Furnace Runs and 3 Furnace Creeks; in Butler County, a Mulligan Run.

Mercer County has a Coolspring Run; Bradford County, a Cold Creek; Greene County, a Frosty Run and Lycoming County, a Frozen Run.

There is a Horse Creek in Venango County; a Bull Creek in Allegheny County; a Cow Run in Potter County; a Cat Run in Tioga County; a Mouse Run in Northumberland County and a Dog Run and a Hound Run in Lycoming County. Huntingdon County has an Old Woman's Creek; Clinton County, a Young Woman's Creek; Tioga County, a Mann's Creek; Berks County, a Maiden Creek and Fayette County, a Virgin Run. We shouldn't forget Sister's Creek in Venango County and Aunt Clara's Fork in Washington County. Lackawanna County has a Creamery Brook; Warren County, a Coffee Creek and Mifflin County, a Tea Run. There is a Head Brook in McKean County, a Foot Run in Forest County and a Hand Brook in McKean County.

Animals played a very important part in the naming of our streams as is indicated by the recognition given to the little furred engineer, there being 20 Beaver Runs, 17 Beaver Creeks, 1 Beaver River. There are also 9 Beaverdam Runs, 3 Beaverdam Creeks and 2 Beaverdam Branches. Others which may be included in the same category are Beaver Spring Run and Beaver Meadow Branch. Mr. and Mrs. Bruin came in for recognition with 17 Bear Creeks, 20 Bear Runs and a Beach Branch, along with a Bear Brook and a Bear Gap, Bear Rock and Black Bear runs. There is also a Cub Run in Somerset County.

The name "Elk" is applied to 14 runs, 11 creeks and 1 river. "Deer" to 11 creeks and 2 runs. There is a Buck Creek and 5 Doe Runs, as well as a Moose Creek in Clearfield County.

The points of the compass weren't overlooked as is evidenced by North Creek in Cameron County; South Creek in Bradford County; East Creek in Tioga County and West Creek in Columbia County.

Panthers, once a common resident of our state has six creeks and 5 runs named after it, also a Panther Gap Run. There also are 10 Painter Runs, a Painter Den Creek and a Painter Hollow Run, the name "Painter" being a corruption of Panther.

There are 10 Wildcat Runs, 2 Wildcat Creeks and a Wildcat Hollow Run. That the wolf was once quite prevalent in the state is indicated by the 19 Wolf Runs, 7 Wolf Creeks, 1 Wolf Harbor Run and 1 Wolf Lick Run. The same

may be said of the 10 Buffalo Creeks and 6 Buffalo Runs.

Other streams bearing animal names are Mink Run in Berks County; Polecat Run in Blair County; 7 Raccoon Creeks and 2 Raccoon Runs, along with 2 Coon Creeks, 2 Coon Runs and 1 Coon Hollow Run. There are 6 Fox Runs and 1 Fox Creek; 2 Rabbit Runs, 2 Muskrat Runs; 2 Possum Hollow Runs; 2 Porcupine Runs and 1 Hare Creek.

THE name "Spring" applied to a stream was a common practice, there being 14 Spring Creeks, 9 Spring Runs, 2 Spring Brooks and 4 Big Spring Runs. Sugar also seems to have been a favorite term with the stream namers, being applied to 12 Sugar Runs, 9 Sugar Creeks. To this group may be added 9 Sugarcamp Runs, a Sugar Grove Run, a Sugar Works Run and a Sugar Run Creek. While on the subject of sweets we may include Honey Creek in Lawrence County; Molasses Creek in Bucks County and for variation, Salt Run in Cameron County.

There is a Dismal Run in Delaware County and a Pleasant Stream in Lycoming County; a Hammer Creek in Lancaster County and a Fork Run in Forest County.

The list includes 15 Roaring Runs and 4 Roaring Creeks, along with 6 Rattling Runs and 3 Rattling Creeks, but only 1 Still Creek in Schuylkill County and 1 Still Run in Warren County.

Birds weren't overlooked as is evidenced by Goose Run in Indiana County; Goose Pond Run in Monroe County; Drake Creek in Carbon County; Duck Run in Clinton County; Puddle Duck Run in Lancaster County; Woodcock Creek in Crawford County; Hawk Run in Clearfield County; Martin Run in Lycoming County; Bluejay Creek in Forest County; Crow Run in Beaver County; Sparrow Run in Centre County; Rook Run in Jefferson County, along with 5 Turkey Runs and 1 Turkey Creek, 7 Pigeon Creeks and 3 Pigeon Runs.

There are 5 Straight Runs and 2 Straight Creeks; 7 Crooked Runs and 5 Crooked Creeks and a Bend Run in Warren County; 6 Lost Runs and 3 Lost Creeks, but they've been there all the time.

Snakes came in for attention through 8 Rattlesnake Runs, 1 Rattlesnake Creek, 1 Rattlesnake Brook, 2 Snake Creeks and 3 Snake Runs,

as well as a Moceasin Run in Clinton County. Beaver and Allegheny counties have Moon Runs, while Huntingdon County must be content with a Half Moon Run. There is a Butcher Run in Butler County; a Slaughter Run in Erie County; a Blood Run in Forest County and Bloody Runs in Clearfield and Greene counties. Potter County has a Card Creek and Blair County a Diamond Run.

In Washington County you'll find a King's Creek; in Schuylkill County a Koenig's Creek; in Forest County, a Queen's Creek; in Bradford County, a Princee Hollow Run in Chester County, a Knight's Run. Here we may include Half Crown Run in McKean County.

There are Hill Runs in Armstrong, Forest and Fulton counties and Valley Runs in Chester, Delaware and Lancaster counties. Also a Mountain Creek in Fayette County.

McKean County has both a Lightning Run and a Thundershower Run; Cameron County has a Square Timber Run and Clinton County has a Round Island Run. In Greene County there is a Pumpkin Run; in Beaver County a Potato Garden Run; in Cumberland County a Peach Orchard Run and in Franklin County a Vineyard Run. There is a Common Creek in Bucks County; a Poison Creek in Pike County; a Choke Creek in Luzerne County; a Bogus Creek in Forest County; a Warrior Creek in Luzerne County; a Retreat Run in Fayette County and a Runaway Run in Jefferson County.

Hard liquor was part of the oldtimer's existence as is revealed in the 4 Whiskey Runs, 3 Scotch Runs, 1 Gin Brook in Pike County; 3 Brewer Runs, a Keg Run in Bedford County; a Glass Creek in Sullivan County; Bottle Runs in Cambria and Lycoming counties; a Booser Run in Dauphin County and a Holiday Run in Venango County.

THERE are 3 Blockhouse Runs, a Camp Creek in Bradford County; a Shanty Run in Elk County and a House Run in Greene County. Contrast is found in the 15 Muddy Runs, 10 Muddy Creeks, 1 Muddy Branch and 1 Muddy Brook, as compared with the 4 Clear Runs and 3 Clear Creeks. There are 22 Long Runs, but only 1 Short Creek.

In Forest County is found Lamentation Run; in Columbia County, Late Run; in Greene

County, Grave Creek; in Lycoming County, Tomb Run. And from there it could be Paradise Creek in Monroe County or Devil's Race Course in Dauphin County.

There is a Red Mill Brook in McKean County; Blackhorse Creek in Chester County; White Deer Creek in Union County; Blue Hole Run in Somerset County; Brown Creek in Bradford County; Green Run in Lackawanna County and Yellow Breeches Creek in Cumberland County. Bedford County has a Barefoot Run; Fayette County, a Washwater Run; Perry County a Beggars Creek; Beaver County a Poorhouse Run; Allegheny County a Dirtycamp Run, then going from bad to worse, Susquehanna County, a Pig Pen Run.

Distance was always something of concern to the settlers, marking it off by the various streams such as 1 Halfmile Run; 12 Twomile Runs and 1 Twomile Creek; 3 Threemile Runs; 10 Fourmile Runs and 1 Fourmile Creek; 3 Fivemile Runs; 5 Sixmile Runs and 1 Sixmile Creek; 1 Sevenmile Creek and 2 Sevenmile Runs; 1 Eightmile Creek; 4 Ninemile Runs; 3 Tenmile Creeks and 3 Tenmile Runs; 1 Elevenmile Creek; 1 Twelvemile Creek; 1 Sixteen Mile Creek and 1 Twentymile Creek, the latter three Flowing into Lake Erie, apparently the mileage designating the distance east of Erie.

Indian, Sawmill, Swamp, Rock, Sandy and Swift were popular names applied to streams found throughout the state.

Potter County has a Rose Brook; Butler

County a Thorn Creek; Clarion County a Fiddler's Run; McKean County a Fife Run. There are Beauty Runs in Centre and Lycoming counties and an Ugly Run in Jefferson County. There are 23 Fishing Creeks and Runs, but only 1 Hunter's Creek. There is a Mason Run in Cameron County and a Dixon Run in Indiana and Clearfield counties, both quite distant from the famed line which separates the north with its cold biscuits and the south with its hot corn pone.

There is a Big Brook, 2 Big Creeks, 23 Big Runs and a Bigger Creek in Washington County.

Not all of our streams were named by those who followed William Penn into Pennsylvania, any number of them bearing the designations given by the redmen, long before the whiteman set foot upon their banks. Some of these include Sinnemahoning, Connequenessing, Aquashicola, Catasauqua, Tangascootack, Youghiogheny, Chillisquaque, Quenamahoning, Kishacoquillas, Wallenpaupack, Conodoguinet and Tuneungwant, to mention but a few, hard to pronounce, harder to spell out.

Colorful, quaint, interesting, descriptive, charming and humorous are but a few of the definitions which can be taken from manner in which our predecessors have named the waterways, once their principal avenues of transportation. May they all, some day, teem again with the finned dwellers which once found food, shelter and existence in them.

A careful man I ought to be;
A little fellow follows me;
I do not dare to go astray
For fear he'll go the self-same way.

I cannot once escape his eyes,
What'er he sees me do he tries.
Like me he says he's going to be
The little chap who follows me.

He thinks that I am good and fine,
Believes in every word of mine.
The base in me he must not see,
That little chap who follows me.

I must remember as I go
Thru Summer's sun and Winter's snow
I am building for the years to be;
That little chap who follows me.

By **CAPTAIN E. J. HESS**

From—*Fishing Waters of the World*



if the **B**oots fit you're a **F**ish **H**og

(Here are a few pertinent observations about perennial fish hog pests.)

IT SEEMS TO ME that the object of all sport fishing—whether it be fresh water or salt—is to have as much fun as possible and to match your skill and cunning against whatever it is you are out to catch. However, I may be all wrong, for so many fishermen seem to engage in the sport simply for the purpose of catching as many fish as possible, and to hell with the way they do it.

In the charter-boat business you run into lots of fish hogs. Sometimes they are the way they are simply because they don't know any better, and then maybe you can make real anglers out of them. But more often than not, they are dedicated, meat-greedy scavengers, who are a disgrace to the sport.

The simplest way to point up the problem is to ask the question, "Are you an angler or

are you a fish-hog?" If you're not sure which boot fits, you might stop a minute and consider your tackle. Very often the size of your rod and the gearing of your reel will be all the clues you need. If you are a fish hog, the chances are that you have a big rod and a high geared reel that give you such a wide margin of advantage over the fish that you are bound to fill your bag.

I've found that you can usually spot a fish-hog by the tackle he uses. I remember one fellow who sailed with me a few times last summer. When he first came aboard, my mate and I did a double take. He had a glass surf rod that was at least 8 feet long, a reel that would have given a big tuna a run for his money, and no less than three burlap sacks which he tied to the rail. When I stopped to talk with him,

he was spooling on some of the heaviest line I've ever seen this side of a tuna tournament.

"Whacha got there?" I asked.

"Whacha mean?" he replied.

"The rod, I mean," I said. "It's so big. You gonna catch a whale?"

"Wadda ya mean big?" he retorted indignantly, "it ain't so big. You funny or sumpin'?"

"We're going out to the Cholera Banks to catch sea bass and porgies," I told him. "You don't need such a big rod and stuff."

"I wanna ketch lotsa fish. How'm I gonna catch lotsa fish if I don't use a big rod? Huh! tell me that, wise guy."

"Drop dead," said I, and my mate added, "Blow away!"

I'm unhappy to report that he caught "lotsa" fish. He didn't fill the three bags, but damn near. He cornered three men's share of the bait, fished straight through the day, kept everything he hauled aboard, fought with the guys who were fishing next to him and screamed his head off when we pulled the hook and headed home. I did all I could to discourage him, but he returned a number of times after that and on each occasion repeated his hoggish performance. I finally took all I could of him and told him never to darken my transom again. The last I saw of him was his back as he headed for one of the other boats.

One of the simplest ways to keep from becoming a fish-hog is to choose your tackle carefully. Remember that there are different rods and reels for different jobs, and don't try to get by with one rig for all the salt water angling you may do. If you are just starting out, don't be misled by the guy in the tackle shop who assures you that, "This rod and reel will be perfect for you. Catch all sorts of fish with it." Sure you can catch all sorts of fish with it! The question is, will you have any fun in the catching and will you be giving the fish a sporting chance if you use it?

VERY often I'm confronted with the sight of a newcomer to the salt water sport, his face aglow with the early-morning briskness and the inner light of enthusiasm for the day ahead, his arms loaded with lunch and that shiny new tackle box, and clutched in his fist that first rod—that stick and reel which the fellow in the big-city tackle shop sold him with the

assurance that, "This is the rod for you. Just the thing for all sorts of salt-water fishing."

Whenever I get such a one on board, and he asks, "Will this tackle be ok?" I think dark thoughts which have to do with feeding the tackle huckster to the first mean shark I see.

If the fellow who has been duped into buying the broom stick turns out to be a nice guy who really wants to become an angler, I lend him some proper tackle and advise him to trade in what he has bought for something more suited to his needs, no matter what they are.

I recall one couple who fished with me last year. I was running for blue, with the boat open by reservation. This chap called and asked if there was room aboard on the following day for himself and his wife. I put their names in the book, then asked if he thought he'd need tackle. He said, "No, we want to do a lot of fishing, so we bought rods and reels and stuff in a shop in the city. Got everything we need."

THEY came down to the dock early the next morning and introduced themselves. Turned out to be from the South, and as is usual with so many folks from that part of the country, they were very pleasant and friendly. There was a half hour or so till sailing time, so we went into the diner on the dock for a cup of coffee. We talked some, and he told me that they had gone to a certain well-known tackle emporium and asked for blue-fishing tackle.

I didn't get a chance to look at what they had been sold till we were anchored and had our chum streak working, but I wasn't especially surprised when I saw that he had been sold a spindly little bay rod, and she had been cursed with a great bean pole of rod. The reels were identical, and in both cases completely inappropriate. I never did find out for sure, but I suspect that they had a gearing of about five to one. They were damn near big enough to hold my anchor line.

Figuring that experience is a better teacher than anything else, I didn't say a word to them. Finally they hooked into a pair of 4-pound fish. The blues were well hooked, and there shouldn't have been any problem in boating them, but the lady was holding so much rod that she had all she could do to turn the crank a couple of times. Her rod didn't work a

bit. It just stuck out and pitched up and down—mostly down—like the bowsprit of a Horn-rounding clipper ship. My mate finally took over for her.

The fellow had the opposite trouble. His rod bowed when the fish hit, and it stayed that way till the catch was flopping on deck. It had a sort of tired look, like a sunflower plant with too much sun and not enough water. The rod didn't have any action and so didn't work for him against the blue. He was about to snap down on the drag when one of the other customers warned him that his rod would probably break—so he dropped the rig and hand-lined the fish in.

When it was all over and the man smiled sort of sheepishly, the wife said, "I don't want to catch another one of those!" I knew that their angling careers were near to closing before they properly got started. I told them to be patient and that I would fix them up with proper tackle.

The change in tackle made all the difference in the world. With the new rods and reels, and a little coaching and advice from the mate and myself, the couple caught on fast, and by the end of the day they were both well on their way to becoming experts. In fact, the woman was high hook on the boat that day.

She hooked, tussled with, and boated thirteen very nice blues.

It helps, before buying salt water tackle, to formulate a couple of rules. First, don't ever let anyone tell you that there is such a thing as an all-purpose salt water rod. If you plan to follow three varieties of salt water angling, you will need three rods. For instance, you will need a light boat rod and matched reel for fluke and flounder when you fish from a rowboat in the bay. You will need a slightly heavier, short rod and reel with a larger line capacity when you fish on the bottom offshore. And last, you will need a rod with somewhat more backbone (a longer tip and at best a roller tip-top, upon which you should mount a good precision game fish reel with a good star drag) for use on such game fish as blues and bass. Such a rod is practical for trolling and chumming.

When you select a rod and reel for a specific job, get the best you can afford. Remember that the idea behind the sport of fishing is to have as much fun as you can and not to haul in as many fish as you can. With that in mind, choose the rod that will bring out the best in you, the angler, and in the fish, the anglee.

LOVE OF THE LAND

Protection of our forests from fire is basic conservation. Planless burning is one of the great destroyers of our wealth. When the woods burn, the wilderness economy becomes bankrupt. Wildlife disappears. Water once held on spongy, plant-carpeted land rushes off. Erosion starts. Nature's balance is upset; and all living creatures suffer. These wounds can impoverish a region and damage an entire nation. For in final analysis, all life depends on the health of land and the abundance of its resources.

Love of the land has gained increasing support in America over the years. We realize more and more our compact with the unborn generations that we leave to them something more than depleted resources.

But there are many violators of that compact. Every careless camper who leaves his fire smoldering violates it. Every smoker who tosses a cigarette into the bush violates it. So do the hill people of the South who start fires purposely. The problem is a national one, not a regional one. Every section of the nation knows of these abuses; and thousands of acres are lost every year because of them.

Neither laws nor their enforcement will completely solve the basic problem. There remains the task of educating young and old to the enormity of the evil. This requires a sense of personal discipline and understanding on the part of all our people, instilled through an unceasing educational program. We already apply the good neighbor policy to the people around us. We must educate each generation to apply that same concept to our relationship with the land.

—William O. Douglas, Associate Justice, United States Supreme Court

A Day Before the Sanitary

Water Board

(Editor's Note) In order to familiarize himself with the structure and operation of the Sanitary Water Board of the Pennsylvania Department of Health, Mr. Thomas Bigler, news commentator of WILK-TV, Wilkes-Barre, attended a meeting of the Board and learned firsthand of its procedures. The following transcript of a telecast by Mr. Bigler tells its own story.

By **THOMAS BIGLER**

WHEN we made our trip to Harrisburg last Thursday it was, as much as for anything else, to discover what this entity is which has taken such a prominent place in the thinking and planning of Wyoming Valley—the State Sanitary Water Board.

We came face to face with the Board in the conference room and found it to be a group of seven men and their aides, a deceptively commonplace-looking group.

Four of its members acquire membership automatically upon appointment as Secretary of a State Department. In this case these are: Dr. Berwyn Mattison, Secretary of the Department of Health; Dr. Maurice Goddard, Secretary of Forests and Waters; William Voigt, Jr., Executive Director of the Fish Commission; and Joseph T. Kennedy, Secretary of Mines and Mineral Industries. The remaining members of the Board have served with singular permanence without regard to Administrative changes. These are: Dr. Marion McKay of the University of Pittsburgh; Henry Brownback, an industrialist from Norristown; and Frank M. Geer of North Warren.

Principle assistants are John Gittins, formerly of Kingston who is Secretary of the Board and who made our visit a valuable one; and the Board's legal arm—Deputy Attorney

General Robert Trace and his assistant, Attorney Russell Welch.

When the hearing is called, representatives of the community concerned file into the conference room and are introduced. The spokesmen for the group are invited to the conference table and are sworn. The Board's counsel opens the general questioning and the community spokesmen, with their own legal counsel, are permitted—even urged—to make as full and complete a statement of their position as possible. The Board counsel handles the initial interrogation for the Board and when completed, asks if any of the Board members have questions.

It is likely that during this opening phase, the Board members will have assumed a rather detached air. Some make note, some look dreamily at the speakers. Dr. Goddard, a lincolnesque figure of marked height and angularity slouches so deeply in his chair that only his closed eyes are visible.

But when the questioning is turned over to the Board it becomes evident that not only have they heard and retained all that has gone before, but they are possessed of an exceptionally thorough knowledge of the background of the community and its problems.

Without the members changing their stance perceptibly, the questions begin to flow: each one sparse in phrase and sharp in point. Dr. Mattison, dapper and soft-spoken until aroused, generally leads the questioning in his position as Chairman of the Board.

This reporter was impressed that men of such relatively brief tenure as the Secretaries should have such a sure grasp of such diverse and specialized fields as finance, required bacterial count of discharge, normal aerating time, sludge disposal, plant and line design, soil structure, personnel training, industrial and government organization, terrain drainage and the like, to remain on top of even the most formidable specialists.

We sat through several hearings and heard eminent authorities in the chemical, biochemical, engineering and fiduciary fields closely examined, their findings and proposals subject to critical analysis with the same apparent ease as that which the transparent expenses and

flimsy arguments of lesser witnesses were disposed.

In any case, it was a rare witness who retired from the hearings without the feeling that some chink had been exposed. Not that it was the Board's position to demean, but rather that the dedicated objectivity of its members left little to chance.

We discovered then that the State Sanitary Water Board is an administrative organ seeking to assure that the law is observed and the interests of the citizen is protected in that observance. It is a knowledgeable group of men with an almost historic continuity of purpose whose kind of service assures that a full measure of value is accomplished by government.

THIS WE BELIEVE

"Conservation is a way of life which is concerned with fundamental human needs. It relates the teachings of nature's laws to the ethics of social relationships and so promotes the wise use of human and natural resources for the greatest good of all. Focal determinants of conservation, then, are man's concern for man on the one hand and man's concern for nature on the other. Thus a courageous and creative citizenry is demanded if natural and human resources are to be utilized for the continued improvement of the democratic way of life.



FISHING WITH HELLGRAMMITES

By JOE MATHERS

The hellgrammite, the larva of the Dobson fly, which is usually found under rocks in swift rapids and riffles, is best presented to fish as if it had washed loose from these rocks and was being swept downstream.

During this drifting, it continually flashes and contracts the many white, finger-like bunches of gills along the abdomen, which is flip-flapping in a very attractive manner. When it reaches the deep tailwater or eddy, below the riffle, it drops to the bottom and attaches temporarily to a rock, and then crawls back upstream along the quieter edge-water zone to its swift water home.

Deluxe Bait

That is the natural, life-like action that the angler should simulate. It will really "pull" strikes. In select areas of streams, particularly in the spring and fall when minnows and other small fish are scarce or beyond forage size and the crayfish are hiding under rocks or in the mud, you have a bait deluxe for small-mouth bass, trout and channel catfish. Hellgrammites will take many walleyes, too.

You can best exhibit the action of a hellgrammite on a long (6-8 feet), lightweight leader, but while fishing over rocky or snaggy bottoms the leader strength can be increased to 15-20 pound test so you can pull loose from snags.

A rather small hook should be used, from a number 2 to a 1/0. Push the hook under the hellgrammite's collar, and pinch on a couple of split shot or attach a sliding sinker 18-24 inches from the hook. Clip off the two tails and the first joints of the legs, all of which have grasping hooks or claws. This will keep the bait from clinging to rocks as it bumps along the bottom.

Rifle Drift

Upstream fishing usually gives the best results. Stand slightly downstream and cast into swift water where it begins to become smooth and fast and let the bait sink and drift in a long arc, bumping along the bottom to the tail hole or in the eddy where the current slows. That's where fish will be waiting for choice morsels of food unloaded by the slowing stream.

If the bait has come to the end of its drift and you've had no strike, twitch or pull the bait forward and let it drop back with the current three or four times. Then jerk or drag the bait back to your fishing position. This will bring the bait along the edge of the quiet, deep water. In fact, this is one of the very best ways to fish most any bait—minnows, crayfish, leeches, worms, dead baits and concocted baits—in tailwaters and eddies. Dead baits and worms, of course, should not be jerked or dragged back upstream.

When fishing from a boat in larger rivers, anchor so you can execute this drift. It will increase your catch. You can try fishing downstream, but it is very difficult to keep the bait down in this swift water. It will keep coming to the surface at the end of the tight line. The technique of fishing upstream is the secret of successful hellgrammite fishing. But when upstream fishing is impractical, a hellgrammite can be fished downstream by using a heavy dipsey sinker tied to the end of a 12-18 inch dropper which is attached to the line so it will slide.

Other Areas

The hellgrammite can be twitched or drag-fished through or along these deep tailwaters or eddies, and can also be drifted through deep channels, under cut banks, under drift piles, and around and under sunken logs and boulders, but try to find such places where there are rocks, riffles and rapids close by or upstream. Fish in these areas are used to feeding on hellgrammites.

Hellgrammites can also be effectively fished in moderate to slow currents by float drifting with a cork.

Any of the other conventional riggings with sinker below the hook can be used to fish hellgrammites, except that this bait should not be fished in standing water where there is no current. With hellgrammites—as with all other baits, living, dead or concocted—don't let the bait "fish itself." Keep the bait continually or periodically moving by drifting, jerking, or drag-fishing, using jerky, start-stop retrieves or slow to very slow retrieves.



OLD COVERED Clark's Ferry bridge is remembered by many anglers. Remains of old Green's Dam just south of the bridge can be seen.

The Historic Susquehanna

A NGLERS, fishing for bass and Walleyes, or Susquehanna salmon, below the rough waters marking the one-time site of Green's Dam just south of the present Clark's Ferry Bridge, or casting their lures in the shaded waters under the arches of this structure, may well pause and, in imagination, watch the pageant of history pass by where the great Susquehanna and Juniata rivers meet about 20 miles north of Harrisburg.

Such contemplation is particularly interesting here when the fish are not biting—and, of course, even if no fish are being taken, the angler will be well rewarded anyway by his turning back of time to ponder on what has happened herein the ages that have passed. Just as the whole story of the Susquehanna river has never been told—although Carl Carmer in his recent "The Susquehanna" has done a magnificent job,—so, too, has the history at this joining of the two great streams never been recorded in its fullest.

But sitting quietly here in a boat, or standing in the riffles made by the under-water remains of the old dam, the fisherman may well let his mind dwell on other things—when the fish are not biting. If he has been an occasional reader of history he has something to start with—and that should encourage further reading and study.

And it may be well to state here that, although the scene has changed frequently in the time of recorded

local history—about 300 years—they still catch good bass and wall-eyed pike here in the Susquehanna and the Juniata rivers just as they did in Indian days.

Here certainly are human intimacies and ancient tales of the long, long ago that should make up for any empty creel if the fishermen will ponder these tales and the recorded history.

Here the birch bark canoe of the Indian glided over the waters for years. Here was an Indian village on Duncan's Island and Haldeman's Island. Here the Indian fished with hooks fashioned from the leg bones of deer and lines woven from their hair or thinned out from animal sinews. Here, too, he cast his net made from animal fibres, woven grasses and other materials. It was a peaceful scene.

Here David Brainerd came missionarying among these Red Men in 1745—210 years ago. He tarried in their villages scattered along the river banks and on the various islands. Friendly to him in the Spring of that year, Brainerd had returned to them in September hoping to convert them to the white man's religion. When he returned in this month of September he found them engaged in a great sacrifice and dancing. He was perturbed. He didn't understand exactly what was going on.

He wrote in his diary:

"In the evening they (the Indians) met together, nearly a hundred of them, having made ready ten fat



JUNIATA AND SUSQUEHANNA MEET at points famous in American history. Modern bridges now span both great rivers.

By J. HERBERT WALKER

Photos courtesy of Pa. Dept. of Highways

deer for the sacrifice. The fat of the innards they burnt in the fire while they were dancing and sometimes raised the flame to a prodigious height; at the same time yelling and shouting in such a manner that they might easily have been heard two miles or more. They continued their sacred dance nearly all night, after which they ate the flesh of the sacrifice and so retired each to his own lodging."

Brainerd made not a dent in the habits or upon the minds of the so-called pagan Indians. They continued to pursue their own ways and his missionarying here brought at least no immediate results.

Let the fisherman, sitting quietly in his boat or wading deep and hugging the river rocks, conjure up the scene of that sacrificial dance—red bodies weaving with certain rhythm in the magical firelight. Let him, in imagination, become a part of the evening's dance and sacrifice by the simple red men—lovers of nature, and only haters of the white folks when they had been betrayed by them, deluded, cheated out of their fishing streams and their hunting lands, their homelands, the lands of their ancestors, the lands of their dreams that had been theirs by virtue of gift from the Great Spirit, whom they worshipped in such sacrifice as Brainerd had witnessed that one night. Even the graves of their ancestors had been destroyed by an advancing tide of civilization.

But the banks of "the long crooked river" and the

one-time Blue Juniata have witnessed a whole history of other spectacles—even up to as late as last evening! For this spot is as old as time and as new as the fanciest stream-lined Pennsylvania railroad train that rushes nearby or the latest in automobile transportation that travels over the concrete Clark's Ferry Bridge—a bridge that succeeded the old wooden structure that had witnessed the stirring events of the stage coach and canal days.

Now automobiles and buses and trucks by the thousands cross this bridge every 24 hours—but in the old days Conestoga wagons, drawn by heavy teams and later the lighter stage coaches went over the wooden bridge. Even the "mule walks" or, you might say towpath, built onto the south side of the bridge saw these patient animals pulling canal boats from one side of the river to the other, transferring them from the Juniata canal to the main canal that paralleled the Susquehanna river.

The ageless years lay more heavily upon the rivers here than do the cares of the day for the angler enjoying his favorite sport. And the expectancy of good fishing can be no greater than the expectancy of tomorrow that will see other changes made here as our civilization moves ahead. What changes even the past 100—or even 50 years—have been made here.

Birch bark canoes, patched with the skins of animals, sometimes daubed with pitch from pine trees; dugout

canoes hollowed out of logs, the Indian ferry, later the Clark's ferry, the bateau of the pioneer, the log raft, the river ark, the canal, the railroad, the dam, the bridges all have followed in their turn and all have made great history here. Today paper-smooth highways skirt both sides of the Susquehanna and the Juniata where great points of mountains have been sheared away for the construction of highways that make travel easier and speedier.

The towering cliffs have looked down for centuries on the changing scene—from the days of Indian boys and girls swimming in the clear waters to the red canvas-covered canoe of as late as yesterday with a college sophomore and his girl friend paddling down stream. Here, too, young red men and women paddled in the early days before the coming of the white man.

The new highways, the re-location of railroad tracks, the improvements in transportation, the great high tension lines carrying electricity over the mountains and down into the valleys, the blinking red lights of television and radio transmitter stations atop the mountains nearby, the off-and-on lights of powerful airplanes passing overhead tell a wonderful story of man's temporary conquest of the water, the earth and the air.

Certainly the rivers have been destroyers as well as preservers. The conquest, either by Indian or White Man, may well not be final—and bass fishing still thrives on as the tale of the rivers goes on and on—a tale as old as the hopes of the Indians for better dealings from the White Man, old as the dreams of the pioneers who came here, fresh as the ideals and the dreams of today and the bright hopes of tomorrow.

Let the fisherman witness the simple saga and pageant of the rivers here—rivers of memories, rivers of history, rivers of charm and ever-enduring beauty and interest, and yet rivers of damaging floods.

Here came the families of pioneers seeking homes in new land, here came the trappers, the traders, the missionaries, soldiers, stage coach drivers, raftsmen, canal boatmen, farmers, millers, sawmill men and merchants.

Though the song of the Indian does not now echo through the hills, so have some of the works of white men disappeared—the canals at this point, for example, where remaining ditches and lift-locks, still to be seen in part, tell a graphic story in the history of transportation upon which Pennsylvania built up a hope for an improved economic future, through the construction of this canal system, only to almost throw the Commonwealth into bankruptcy. But it was still a step forward in the progress of a great state.

Follow the banks of the Susquehanna river, and the Juniata, at this point and you will find evidences of canals, old locks, aqueducts, broken piers and, if the evening is quiet and the fish aren't biting, it is not too much to faintly hear in imagination the sound of the conch shell blown by the canal boatman as he signals the lock tender to clear his passage through, or you might even hear the faint tones of the stage coach driver's horn as he travels along the dusty, narrow highway, announcing his arrival at the Inn.

And yet with all the changes of the passing years the old, and forever new, Susquehanna river as well as the Juniata, continue to spawn fish just as these streams have been doing for long, long years. Here are

evidences of decay and disaster and yet here, too, are evidences of a still greater tomorrow. The rivers keep rolling along.

At Clark's Ferry the Pennsylvania Canal crossed from the east to the west shore, then joined with the Juniata Canal at the point where the two streams meet. The great Green's Dam provided slack-water navigation across the Susquehanna and also furnished water for the canal ditches. The bridge was built at the Indian ford called Queenashawkee, according to "Pennsylvania, A Guide to the Keystone State." In 1788 the Clarks established an improved ferry which was replaced in 1829 by a state bridge, a covered bridge, that was followed by the present concrete structure.

In 1733 Shikellamy, noted Indian chief, protested to the proprietary government that John Harris, the founder of Harrisburg, had built a house "at the mouth of the Choniata" (Juniata) and that he was trespassing on a cherished Indian burial ground. Harris had built his cabin here as an adjunct to his other trading establishments. He cleared fields so that he might grow corn to feed his pack animals. That was his only purpose, he said. However, he closed up and got out of the area.

When the Pennsylvania Canal was a-building in 1828-1829 at this point a large Indian mound was demolished and many Indian artifacts were found.

Luther Reily Kelker, in his history of Dauphin county, published in 1907, says Duncan's Island was an important point on the line of travel northward and up the Juniata river.

"In the latter part of the Eighteenth century, he says, and until the march of internal improvements began (the canal system) which needlessly destroyed the fisheries, the islands here in the area where the Susquehanna and Juniata rivers unite were famous for their 'catch of shad' and these rights themselves were of much value. During the first decade of the Nineteenth century Duncan's Island proper was named Isle Benvenue. This island is about two miles in length, at the eastern end of what is now the village and post office of Benvenue."

Continuing, Kelker writes: "Haldeman's Island (so named from the owner) lies to the north and is separated from the former by a narrow channel. The site of a farm house on it commands a picturesque view. The majestic river at this point is fully one mile wide and is spanned by a bridge."

The bridge which Kelker writes about, of course, was the Clark's Ferry bridge. The dam below that bridge, as was true with all the dams of like nature on the river, was subtly built with a great chute which was lower than the breast of the dam, so that rafts of logs could be sent down stream easily and would not get "hung up" on the dam, where the waters dropped down over the breast of the dam a distance of about eight to ten feet. Water levels, both above and below the dam, were practically the same at the chute.

At night, these days, strings of automobiles make an almost continuous line of light as they pass back and forth in the area. How different from the pine knot light of the Indian as he crossed in his canoe or the torch of the early pioneer, made of rushes dipped in animal fats.



HEAD-ON PHOTO of the old covered bridge at Clark's Ferry.

Not far away from the junction of the two rivers was Huling's Hotel on a hilltop just west of the present Amity Hall. The old Hulings hostelry still stands. It was built originally for the stage coach trade, which was gradually increasing. But even more spacious accommodations were soon required due to the gains in travel. Then Amity Hall Inn was built within sight of the Huling hospice and is still in operation. It looks back over the history of a hundred years.

Marcus Huling, who built the original inn, is said to have added the word "Amity," and that may have come from the wording in an old deed, dated July 4, 1767, which conveyed ground at the intersection of the two rivers. That deed is still in the lobby of the present Amity Hall Inn.

When canal boats took the place of the stage coaches Amity Hall gained great fame as one of the best facilities of the type to be found anywhere in Pennsylvania. Standing at a point where the East-West and North-South canals met, it was one of the busiest of the cannal centers in the entire state.

But once again the cycle changed. Railroads and paper-smooth highways succeeded the stage coach and the canal, but Amity Hall is still at the intersection of great highway routes. It is still in the same position to trans-state traffic as it was in the days of the canals and the stage coaches.

But sweating mules, the sound of the conch shell and the brassy tones of the stage coach horn give way to the shrieks of Diesel locomotive whistles, the constant blowing of automobile horns and, on too many occasions, the wild scream of an ambulance siren on a mission of mercy. How different from the days of the Indian!

Explorers have cruised the river on many occasions. The latest was five years ago when representatives of the National Geographic Society, in two canoes named the "Susque" and the "Hanna" made a trip down the famous river from its source in New York State. They camped one night at the point where the Susquehanna and the Juniata rivers meet. Here they were on historic ground, indeed. Indians had camped here; so, too, had many early settlers and trappers and traders. Here, where the frequently brownish-yellow

waters of the Juniata meet with the clearer waters of the Susquehanna the National Geographic explorers picked up several Indian arrow points, which, in a way, took them back to the days of the aborigines.

Records show that shad, a migrating species, was able to surmount the river dams of earlier days and fishing for these finny fellows continued well into the past hundred years. Old-timers report, as recorded in musty archives, that the shad "runs" here at Clark's Ferry—were so heavy "that a man could walk across the river on snow-shoes." But the big hydro-electric dams farther down stream have stopped all this—and yet there are hopes in the minds and hearts of fishermen that ways can be devised that will permit these fish once again to migrate upstream in the Spring of the year on their annual trek to spawning grounds. At the present time they circle, thwarted and dumb, before the great concrete walls of the big dam at Conowingo.

Certainly the history of this area has been written in water, because all forms of transportation from the early Indian canoe to the latest Diesel locomotive and the rubber-tired automobile follow water-level routes that cut through the rugged mountains. Even the canals followed the streams because of the grades.

Warren King Moorehead, an archaeologist, of Andover, Massachusetts, made an exploratory trip along the Susquehanna river in 1916. One place he visited was Haldeman's Island just above the Clark's Ferry Bridge, which island had been a camping ground for the Indians and a village site. Here, too, was an Indian burial ground. Moorehead uncovered many relics—arrow points, pottery, beadwork and a number of Indian graves.

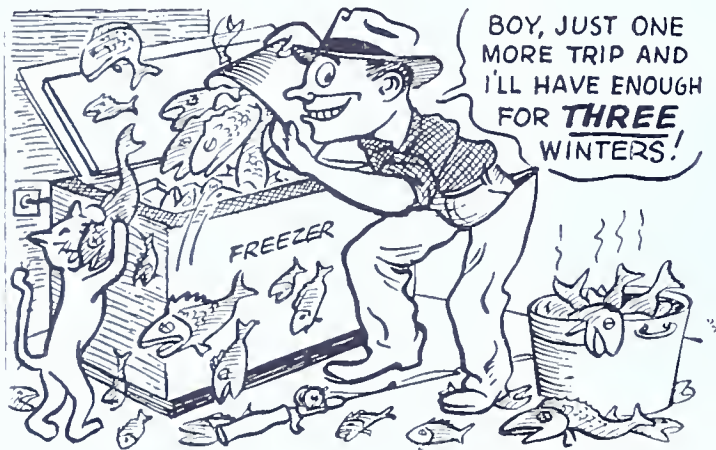
He also uncovered a number of bone fish hooks, which, of course, would be interesting to anglers. How different today's fishing! Then the Indian with bone hooks and fishing lines made out of deer sinews, or with nets made from strips of animal hides and vines and fibers from willows snared fish which formed a great part of the Indian diet. Or, on nights, lighted by a pine knot torch, he speared the fish while his canoe floated in the shadows. His fishing gear was meagre and crude, but he caught fish. He had to. Today with shining reels, split bamboo rods or casting rods, with fancy lines tested to a certain strength and with brilliant plugs and spinners, as well as live bait and other lures, the angler entices bass and other fish from the waters where his Indian brothers 300 years ago did the same thing with lesser equipment.

The important thing, however, is that the river still provides fishing, sport and recreation at this point where history, too, has been made and civilization has marched ahead for so many, many years. What a heritage we have!

Signs of the old ferry have disappeared. Canal locks and ditches, for the most part, have been filled with debris and, along with the old towpaths where the mules and horses plodded their weary way pulling the canal boats, have disappeared where new highways have been built or smoothed out where farms have been expanded. But the indestructible beauty that the Indians knew—the Conestogas, the Susquehannocks, the Shawnees and others—is still here in some measure,

(Turn to page 20)

FISH HOGS Y

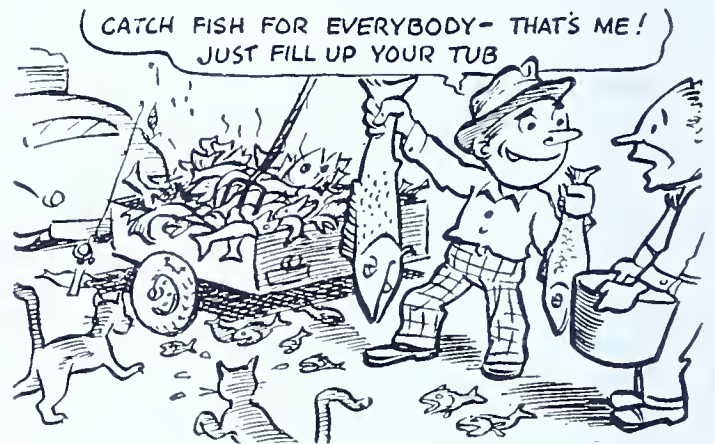


THE "FREEZER FILLER"

His slogan—"Never put a fish back. Eat him next winter"

THE "RETURNING HERO"

The neighbors can't say he's not a "generous" guy! And even if the fish are spoiled they make good fertilizer!

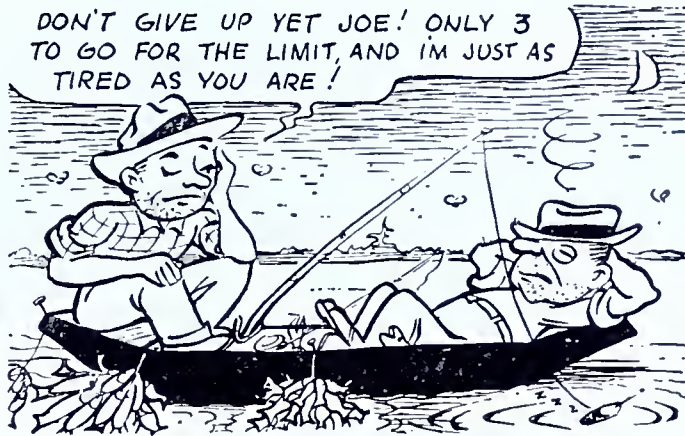


THE "HATCHERY TRUCK CHASER"

Not much of a fisherman, but he hasn't lost a truck this year.

THE "LIMIT OR BUST BOYS"

After all, they bought a license, didn't they? And, by gosh, they're gonna' get their money's worth!

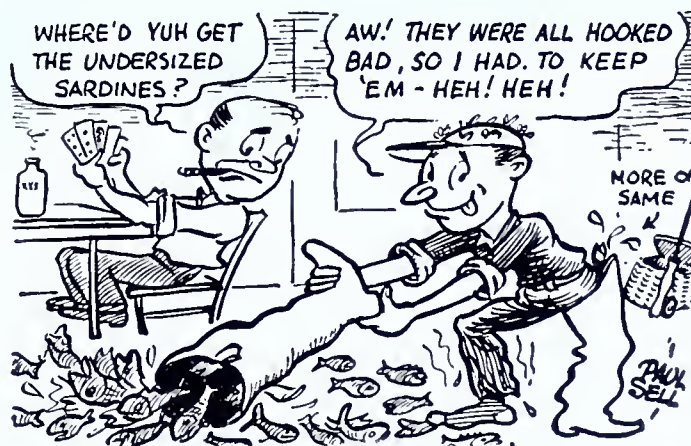


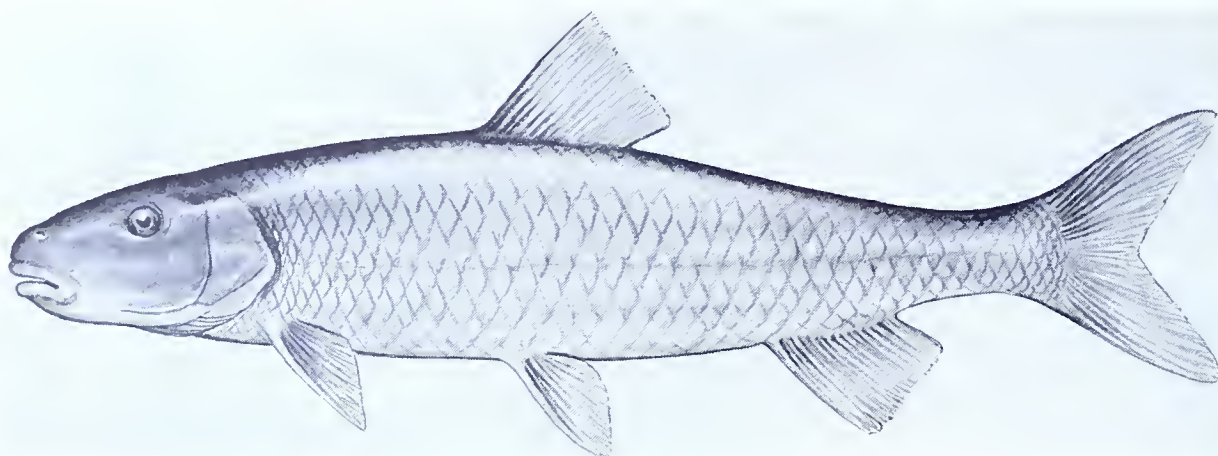
THE "PHOTO ALBUM FANS"

Their big problem is what to do with the "big catch" after the photographer leaves. (Editor's Note: the guy on the left doesn't even eat fish. They give him a stummick ache!)

THE "LITTLE FISH SMUGGLER"

Hates to keep the undersized trout, but they "eat better"—and fishing was slow anyway!





FALLFISH (*Semotilus corporalis*)

One of the orphans of the fish family, nevertheless where trout are caught the Fallfish gives a good account of itself when hooked. Some say they are good eating when caught in cold trout streams.

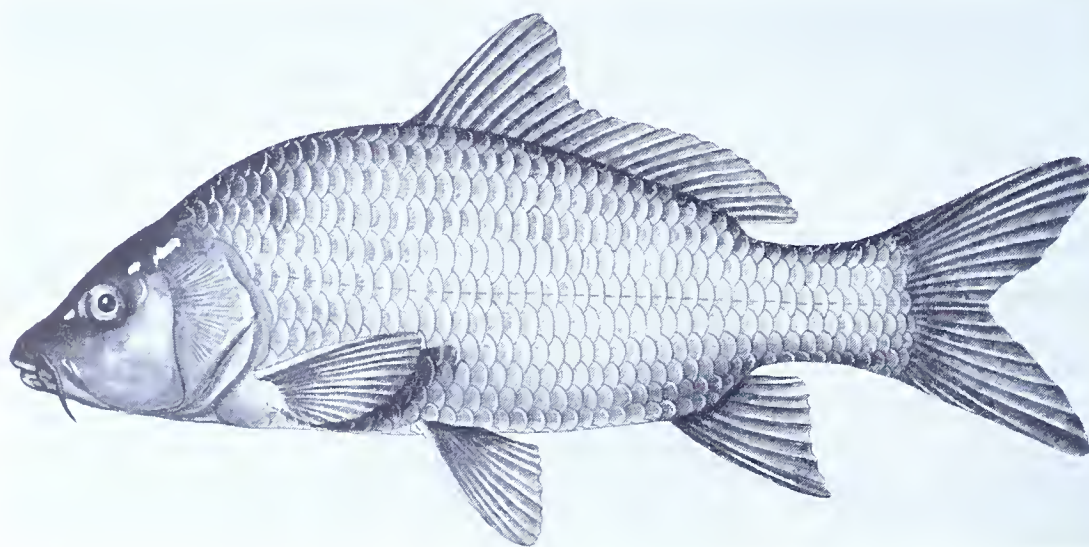
RANGE: Usually in waters east of the Alleghenies but spottily some distance to the west.

CHARACTERISTICS: A trim little fish, growing to 18 inches or more with an average of a foot. Steel blue above with a silvery belly and with red fins among the males during the spawning season. Sometimes called the White Chub and has the characteristic Chub shape.

HABITS: Really an excellent game fish, takes a fly with trout gusto, battles in swift-water habitat with all the dash and determination one could ask for. Builds a regular submarine breakwater, sometimes as much as four feet wide and a foot high, often in the fastest currents. Pebbles, of which nest is made are about an inch in diameter and carried in the mouths of the adult fish. Sometimes injures its mouth so badly building the nest that it dies.

FOOD: Flies, larvae, minnows, worms etc.

LURES: Takes almost anything fished for trout, prefers wet flies and spinners.



CARP (*Cyprinus carpio Linnaeus*)

Originally a native of Asia and transplanted from there to Europe. From Europe it was brought to this country in 1877, now furnishes angling pleasure to many in waters not suitable for game fish.

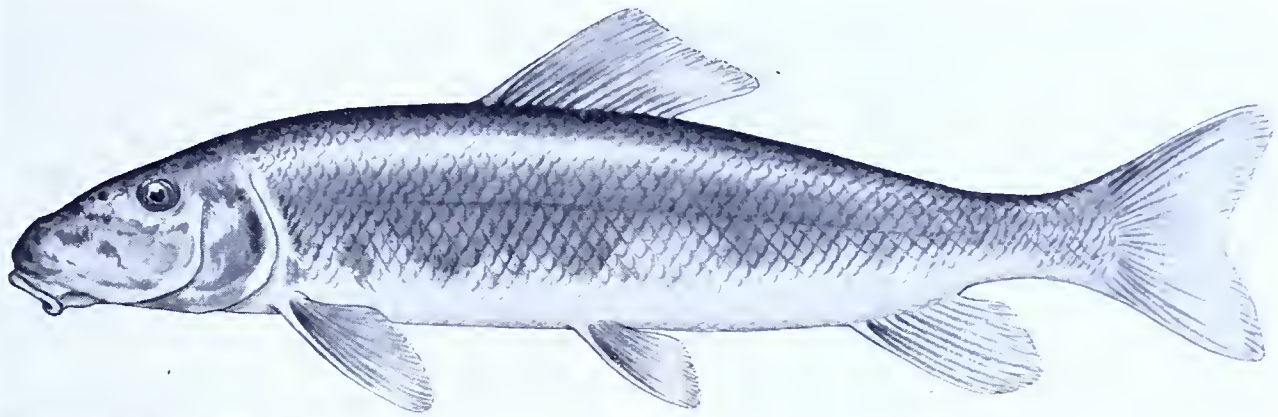
RANGE: Found in practically every state.

CHARACTERISTICS: Color varies with type of water it inhabits, light brassy silver on upper sides and back in clear water to muddy green to brown or black in muddy waters. There are no teeth in its mouth but it does have teeth or grinders in its throat. On each side of the mouth are two barbels. Dorsal fin is single, placed in the middle of the body, both dorsal and anal fins have a single stout saw-edged spine.

HABITS: Usually found in rivers, streams and lakes having mud bottoms. Likes to "root" up aquatic plants to feed on tender roots. Carp spawn in spring and move to shallow waters for this purpose. After eggs are deposited, parents leave them with no protection. Female Carp are unusually prolific and one weighing around 20 pounds will produce as many as 2,000,000 eggs in a season.

FOOD: While really omnivorous, feeding on vegetable matter, it will also consume animal matter such as worms, insects, larvae, crawfish and crustaceans.

LURES: Doughballs, whole kernels of corn, worms and many baits tinted with various flavorings and condiments.



SUCKER (White Sucker—*Catostomus commersonii*)

The sucker family is extremely large, the White Sucker usually the best known member. Pennsylvania anglers, tired of winter rigor mortis usually wet the first line of the year for the sucker.

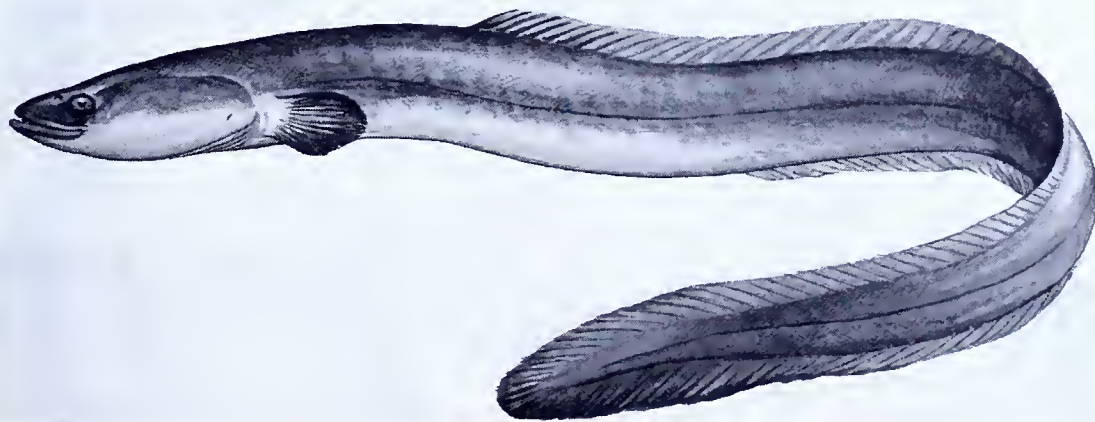
RANGE: From northern Canada, south to the Gulf States and Mexico, and from the East Coast to the West Coast.

CHARACTERISTICS: Body of the White Sucker varies from creamy white to silvery white. Back is darker with an olivaceous silvery cast. During spawning season, color on back of male deepens, and a black lateral line appears on sides, bordered by a pinkish stripe. This change in coloration often confuses the White Sucker with the Black Sucker. Mouth is located under, rather than at the end of its elongated head, a true identification of the species, that produces a perfect suction cup enabling it to suck up food from the bottom of waters it inhabits. All fins are soft rayed; it has a forked tail.

HABITS: Found in lakes, rivers, ponds and streams, preferring clear water at the edges of the current. They spawn in the spring and usually a definite upstream migration occurs at this time. Spawning is done in shallows or riffles which have a gravel bottom, eggs are buried in the loose gravel. The fry hatch in about 3 weeks in water above 50 degrees F., and after the yolk sacs are absorbed, shift for themselves.

FOOD: They feed on aquatic plants, insects, worms and mollusks.

LURES: Worms are most popular bait.



AMERICAN EEL (*Anguilla rostrata*)

Night fishermen usually tie into an eel at one time or another thinking they are fast to a snake until the "thing" is landed.

RANGE: At one time abundant in the Mississippi Valley but now quite rare because of dams and other obstructions in far inland waters. They enter fresh water from the Atlantic only. There are no eels west of the Rockies, in the Pacific nor in any of its islands.

CHARACTERISTICS: Hardly a person could mistake the identity of this fish with its snake-like appearance and actions. It is a fast powerful swimmer and can seemingly make haste in a light dew, lives a long time out of water. Its general coloration is steel to dark blue on the back fading to gray on the sides and white belly.

HABITS: Has spawning habits the reverse of the anadromous species, thus called catadromous fish. It spawns in salt water but always seeks out fresh-water streams in which to pass part of its life. Until only recently the location of the eels' spawning ground was an unsolved mystery of the sea, a most common theory being the eel sprung from horsehairs thrown into the water. Eggs are laid at depths of 650 to 1,000 feet in waters between Bermuda and the Leeward Islands. The larvae slowly rise to the surface as they grow. At this stage and until they reach their respective shores they are mere bits of transparent ribbon. The only difference between the American Eel and the European Eel is the European species has a few more vertebrae. Both species start out together but at the parting of the ways the European elver has a three year swim ahead of it while the American cousin has only a year's trip to fresh water. How they are segregated remains a mystery. Skins have been used for centuries for whips and book-bindings.

FOOD: Mostly a nocturnal feeder on various fish, dead or alive.

LURES: Bites on most any kind of bait, rarely strikes artificial lures of any kind.

spoiled in places by the march of civilization; improved in others by that same civilization.

The birch bark canoe of the Indian has been beached in the sands of history. The sound of the canal boatman's conch shell, the blast of the stage coach driver's horn, are heard no more. The great lumber rafts have long since disappeared. The Conestoga wagons have rumbled into the past. The days of the pioneers are recorded on the pages of indelible records. Great changes have come but the river goes on and on and the White Men angle for fish where their red brothers did in the long ago and, thanks to wise conservation laws, there are still fish to catch at this historic meeting of historic waters.

The almost fog horn sound of a Diesel locomotive whistle not far away breaks the stillness and you look up to see a long string of passenger coaches, whose windows lighted at night look all the world like fire-flies, passing eastward or westward. That way went

the traders and trappers the Conestoga wagons and the stage coaches.

The sky is a desert of stars.

The sound of the locomotive whistle is lonely and its running cry echoes back into the hills and is lost.

Then all is quiet for a brief period. Time creeps down from the hills.

And maybe you've got a bite! But if you haven't, the time has not been lost when you reflect upon the past and the great heritage that is yours this day or this night on these majestic rivers.

So, when you are fishing in the cool and shade under the arches of the bridge, or trying your lures in the "fast water" just below the bridge or tossing your plugs or live bait in quiet waters of the Juniata not far away, pause for a time to reflect on the history that was made here—and rejoice that there is still fishing here in these days of the Twentieth century.

flip casting with the Sneaker

By BEN C. ROBINSON



A few gentle twists of the left hand and wrist nosed the heavy old fishing boat forward through the brittle snags and dead wood barricading the strip of dark water we needed to cast over for the large bass that sheltered themselves along the shores of the lake. The boat scarcely made a ripple as it sinuously threaded a snakey course through the snags and intervening branches. Ordinarily this feat would have been impossible to attempt with anything less quiet and flexible than the green metal fin that urged the prow of the boat through the submerged driftage, weeds and dead saplings that had formerly made this particular shore line impossible to fish effectively with our light spinning rods and tackle.

What motivated the cumbersome wood rental boat

to glide silently through the barricading strip of water deadened brush and pads and pond weed was the *sculler blade* that had been attached to the transom of the boat off to the side of the outboard motor location.

Without disturbing things in the least we slipped between those snags and through the growth of weeds among them and drifted out into the clear water that stretched for some distance parallel with the wooded, rocky and alder fringed shoreline. It was an easy matter then, once we had cleared the snags and their brittle twigs and branches, to flip several casts with our 3 ounce, 5½ foot fiber glass spinning rods, equipped with 6 ounce spinning reels and 3 lbs tests monofilament lines to the eddying sides of the numerous dark rocks that juttied out from the sharp shore. The lures were also light models. Only a quarter of an ounce in weight, each of us had these slightly under-surface working plugs attached to our lines.

The small lures, and the light lines and flexible rods were ideal for this sort of largemouth bass fishing along the deeply sheltered shorelines of the lake. In scores of other lakes we have found these same little strips of unfished bass water with the aid of the Sneaker Fin that propelled the boat forward through such difficult fishing obstacles. The outside of this dead wood fortress, that had prevented all the fishermen unprepared for a passage through it without considerable effort and disturbance, had been fished heavily by others. But inside these sheltered reaches of deep, bench water strips was an area that was practically virgin fishing. And here, away from the heavy currents and waves and within a few yards of their rocky feeding shorelines were the sort of bass that makes a fishing trip in late spring and early summer worth remembering. Here is where a practical means of propelling a fishing boat through weeds, snags and obstructions of various sorts meets the fishing needs of a bait caster or fly fisherman attempting to angle an obstruction filled channel or lake cove and bay. A few light movements of the hand and wrist at the handle of the SCULLER BLADE that we had attached by a strong metal clamp to one side of the transom of the boat maneuvered us into position so the bow was pointed through the same opening the bass had found for its run to the outside of the hedge of brush and weeds.

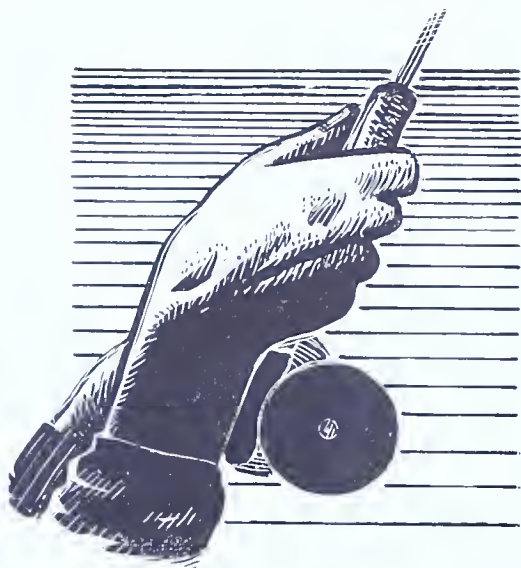
But even in the more open water the contest was not all in favor of the fisherman with his light rod, reel and line and the small lure. The bass decided to bear down into a heavy clump of submerged water plants, where it stubbornly refused to move. This also necessitated some more strategic moving of the boat so as to get the necessary angle of pressure on the sulking bass. But a few more turns, reversing moves with the sculler blade handle and fin, the nudgings of the lure became too strong. The bass then lunged up, shook itself a few more times, tired itself out and was brought in to the net.

This particular make of sculler is called the Florida Sneaker blade, because of the quiet, flexible operation of the metal blade beneath the surface of the water. It is operated by a light metal handle and shaft. No gears about it. The blade operates with two spring



HERE'S THE SNEAKER BLADE folded up for transportation in car or boat. Weight is about 10 pounds, an all-around handy bit of angling gear for weedy places. Also can be used during duck season.

guides and the whole outfit is light in weight. Attached to the transom of the boat—or, if necessary, to the side of the bow—it does not interfere with use of the outboard motor. Instead it is merely an auxiliary unit that can be used principally for negotiating the boat where there are dense weed beds, thick brush and submerged snags and pads. Places where even the best of the modern weedless type motors can not be adequately operated. For tough fishing uses the Sculler Blade comes in handy for the fly fisherman, bait caster or spinning angler. With a bit of practice any one can operate this fin so that a boat can be turned on the proverbial dime, reversed, taken forward or held stationary against currents and breeze, when playing a battling fish or when sneaking through some barrier along the lake into an unfished and hard to fish bit of good dark looking water where the big bass and the bluegills and pickerel and pike like to lurk about. A pair of oars cannot equal the Sneaker for such tough fishing.



Liberalized Fishing Regulations for 1957

The Pennsylvania Fish Commission, following the pattern it has laid to date, further liberalized the fishing regulations for next year. According to R. Stanley Smith, Commission President, the most noted changes in the regulations to be effective January 1, are centered on the warm water fishes, on which a year round season has been declared for all species except largemouth and smallmouth bass.

The 1957 season for bass will open January 1, and will close on March 14. It will reopen June 15 and extend through March 14, 1958. Though the creel limit of six (6) remains, the size limit has been removed.

Size and creel limit changes for the other warm water species are as follows: Walleyes, creel limit of six (6) per day except when caught through the ice when the daily limit shall be two; the minimum size remains at 12 inches; Pickerel, the creel limit of six (6) remains but the size limit has been reduced to 12 inches; Northern Pike, daily creel limit of six (6), the minimum size reduced to 12 inches; Muskellunge, size and creel limits remain the same as at present—two per day, not less than 24 inches long.

In keeping with present ice fishing regulations, which to alter will require an act of legislature, all fishing thru the ice except with tip-ups for pickerel and perch may only be done with rod and reel and lines as presently prescribed. Regulations on fishing with tip-ups for pickerel and perch also remain the same for the same reason.

The season opening for trout will remain the traditional April 15, with the closing date set for Labor Day, September 2, 1957.

Seasons, sizes and creel limits on bass, pike and muskellunge on Lake Erie will be the same as established for the inland waters. Walleyes and blue pike in Lake Erie waters are commercial fish under law. They may be taken all year.

Other minor changes will see the daily limit of tadpoles and frogs up to twenty-five (25). Chubs, regardless of size, are now classified as bait fish.

Conservation

Presque Isle to Get Face Lifting

The Pennsylvania Department of Forests and Waters today announced that bids will be accepted for extensive dredging at Presque Isle State Park, Erie, Pennsylvania. Approximately 250,000 cubic yards of hydraulic fill will be involved in the project, affecting the harbor side of the narrow "neck" of Presque Isle Peninsula. The new fill, on the bay side of the Peninsula, will provide space for an additional two-lane road and will strengthen the Peninsula against Lake Erie wave erosion.

Historic Presque Isle State Park has been undergoing a rebuilding program, involving the restoration of beach areas and additional beach protection measures under a cooperative Federal and Commonwealth of Pennsylvania agreement. The total estimated Commonwealth share of the cost approaches 1½ million dollars. Commencing in November of 1955, the current cooperative dredging operation has successfully enlarged the beach, while concurrently providing a large protected anchorage in the bay area, from which the beach sand was "borrowed." Approximately 4,200,000 cubic yards of sand have been moved to date.

Cook Forest Suffers Storm Damage

Secretary Maurice K. Goddard, Pennsylvania Department of Forests and Waters, today announced the results of initial studies of storm damage suffered at Cook Forest State Park. Located in Clarion, Forest and Jefferson Counties, extensive damage was suffered in the storm of Saturday evening, August 18, when high winds shattered and uprooted numerous trees of great size.

Although no injuries of any consequence were reported, several near tragedies occurred. In one instance a grandmother narrowly averted death or serious injury to herself and her grand-daughter when she observed a 125 foot pine about to crush her tent. She removed her grand-daughter just as the pine tree crashed. No one was hurt but the tent and equipment were demolished.

The Fire Tower Area reported 74 tall trees down while 39 additional trees were blown over in the Tenting Loop Area. Hemlock Trail lost 27 trees. The Cathedral Area, consisting of 4 acres, reported a loss of over 300 of the largest trees in the Commonwealth of Pennsylvania.

On-the-scene observers stated that huge trees "fell like tenpins." Most of the downed timber stood 150 to 200 feet tall. It is estimated that more than ¾ of a million board feet of lumber has been wind-thrown in this disaster.

Pennsylvania

Known as one of the few remaining virgin timber areas in Pennsylvania, Cook Forest was created in 1927 by an act of Assembly "for the purpose of perpetuating a portion of the original forests of Pennsylvania." The Park contains 6,838 acres, bordered on the East and South by 9,000 acres of Pennsylvania State Forests.

Ohio River Boating Laws Clarified

The question of jurisdiction in the enforcement of boating laws and regulations on the Ohio River and its tributaries in western Pennsylvania, was clarified today in a statement by John Sullivan, Deputy Attorney General assigned to the Fish Commission. Said Sullivan, "Though the waters involved are interstate and navigable, and thus are patrolled and controlled by the United States Coast Guard, those portions within the boundaries of Pennsylvania are also within the jurisdiction of the State, represented by the Pennsylvania Fish Commission. The latter agency is charged with enforcement of Pennsylvania's laws and regulations for the operation of watercraft within its boundaries."

Sullivan further pointed out that Coast Guard inland water regulations and the Pennsylvania motorboat code are in substantial agreement, hence patrol and enforcement personnel of each agency have full authority under similar codes.

A potential area of conflict, involving placement on boats of Coast Guard numbers and Pennsylvania motor license plates, has been resolved by informal agreement between the Fish Commission and the Coast Guard. Under this arrangement, Fish Commission enforcement officers will not insist that the state plates be attached to the bow of a boat also carries a Coast Guard number, but will consider the intent of law has been satisfied so long as the state plates are visibly displayed.

Where other essential provisions of law and regulations are concerned such as carrying and the use of lights and life preserving equipment, the Coast Guard and State provisions are similar with Coast Guard regulations in some respects stricter than those of the Commonwealth.

For purposes of clarification, all inboard craft, regardless of length, and all outboard motor craft over 16 feet in length, to conform with Coast Guard regulations, must be numbered. The Coast Guard does not require numbers on outboard boats under sixteen feet.

Sullivan pointed out that failure to meet and carry out the provisions of state law makes violators apprehended subject to summary prosecution in the U. S. District Court. Where, according to Sullivan, jurisdiction is concurrent, prosecution can be brought under Federal or State acts, whichever is applicable, by the respective agencies.

Pocono Clean-Up

Maurice K. Goddard, Secretary of the Pennsylvania Department of Forests and Waters, today announced the results of the Flood-Clean-Up program in the Pocono Mountain area. "Review of activities on this first anniversary of the disastrous flood of August 18, 1955," Goddard stated, "indicates the tremendous scope of this Department's job in returning the North Eastern section of Pennsylvania to the fabulous recreational area it was before Hurricane Diane struck last year."

Within hours of the 1955 flood disaster, the Pennsylvania Department of Forests and Waters had every available engineer, hydrographer and flood specialist on the scene. A state of emergency granted top priority to the Pike, Monroe and Wayne County area.

An engineering program of unheard-of proportions was immediately instituted by Forests and Waters, aimed at off-setting the stream damage and preparing for any further flood threats. During the past year, (to August 1, 1956) \$616,018.29 has been spent on flood works, with \$193,000 additional required for work in progress but incompleting. Scheduled operations have been studied and engineering outlines prepared, the estimated cost of which will exceed \$266,000.00. This sum will provide for almost 40 miles of stream clearance, including channel alignment; construction of bypass and overflow channels; and replacement of excavated material in spoil banks to provide initial protection.

James W. Bailey, District Engineer of the Department of Forests and Waters, administers the flood protection program in Pike, Monroe, Northampton, Lehigh and a portion of Wayne Counties. Located in Stroudsburg, this office utilizes the services of two district supervisors and nineteen foremen, in addition to four general foremen and over three hundred construction employees.





Conservation

Across the Nation

Coronary Club

Requirements for membership in the Coronary Club from an authoritative source—THE CONGRESSIONAL RECORD:

1. Your job comes first; personal considerations are secondary.
2. Go to the office evenings, Saturdays, Sundays, and holidays.
3. Take the briefcase home on the evenings when you do not go to the office. This provides an opportunity to review completely all the troubles and worries of the day.
4. Never say "No" to a request—always say "Yes."
5. Accept all invitations to meetings, banquets, committees, etc.
6. Do not eat a restful, relaxing meal—always plan a conference for the meal hour.
7. It's a poor policy to take all the vacation time which is provided for you.
8. Fishing, hunting, golf, bowling, pool, billiards, cards, gardening, etc., are a waste of time.
9. Never delegate responsibility to others—carry the entire load at all times.
10. If your work calls for traveling—work all day and drive all night to make your appointment for the next morning.

Trout Stamina

An item in THE PROGRESSIVE FISH-CULTURIST for July reports on some interesting experiments conducted by the U. S. Fish and Wildlife Service at its Convict Creek Station in California. Groups of rainbow trout fresh from the hatchery, hatchery rainbows that had been acclimated in the creek for 3 months (perhaps equivalent to wild fish), and wild brown trout were placed in a screened flume in which the water velocity could be regulated as desired.

In swift water (velocity about 3 feet per second) the hatchery-fresh rainbows could maintain their position against the current only 5 to 10 minutes before collapsing against the lower screen. On the other hand, the rainbows which had survived a 3-month period of exposure to natural stream currents resisted similar flows for nearly 30 minutes. Presumably, this may be construed as a minimum measure of the difference in

stamina between hatchery-fresh and stream-grown or wild rainbows.

The wild brown trout held out over a full hour before wearying. Unlike the rainbows, however, the browns took all possible advantage of areas with slacker current, near the bottom corners of the flume. Smart fish. . . .

Results like these lend weight to the conclusions that hatchery fish tend to "go dead" rather than to "go wild" when released in a stream. Reliance on mass rearing methods in trout production requires stocking close to the rod if a large proportion of put-and-take trout are to be harvested from streams. Otherwise, they seem to tire out in the unceasing struggle against the current, drift down stream and die before anglers have a chance to catch them.

Outdoor Politics

The July issue of FIELD AND STREAM carried a most timely and significant article by Harold Titus. Its title is "Let's Take The Outdoors Out of Politics." In it, Mr. Titus summarizes the combined thinking of 18 national conservation agencies and comes up with a sound long-range conservation program. He calls upon the voting public to demand that every candidate for political office declare himself on conservation matters.

The seven major points of the program in which there is broad general concurrence by the important national conservation groups are these:

1. Integrity of public lands (No special privilege).
2. Establishment of long-range policies now, regardless of party.
3. Conservation administration based on the greatest good for all.
4. Make the greatest use of rainfall.
5. Research—and more research!
6. Save the good wetlands.
7. Set up an expert board of review.

Man Causes Most Forest Fires

Man-caused forest fires occurred at the rate of 380 a day during 1955, according to the Wildlife Management Institute. A compilation of fire reports on private, State, and Federal lands shows that about 92

per cent of all the fires recorded in the nation resulted from human activities. The remaining forest fires were caused by lightning. Actually the total number of fires during 1955 was a post-war low.

The 1955 figures reveal that 145,180 forest fires, of which 134,800 were caused by man, burned about 8,068,600 acres. In 1954, 176,891 forest fires, with 166,278 caused by man, burned 8,832,963 acres. The number of forest fires by major causes in 1955 were attributed, in order, to arsonists, debris burners, smokers, campers, lumbermen, railroads, miscellaneous man caused, and lightning.

The U. S. Forest Service reports that people "still deliberately set fires for their own reason, good or bad. They set 25,773 forest fires on lands receiving organized protection, which are the only lands on which figures are available. About 94 per cent of the 'set' fires occur in the South, where the States have just started a vigorous campaign against incendiarism.

"Dismayed at this record of incendiarism and at the economic losses from such forest fires, some quarter-billion dollars annually, 1,200 people attended a conference endorsed by the Conference of Southern Governors at New Orleans in April this year. These business, religious, and civic leaders, educators, public officials, and foresters of the South got together for the first time to discuss this common problem. They emerged with plans for strong educational and law enforcement programs."

Although public use of forests has increased by 150 per cent since 1942, the Forest Service reports that the number of fires has gradually decreased. This decrease has been brought about by such anti-fire programs as the Smoky Bear campaign of the States, Forest Service, and The Advertising Council; the Keep Green program sponsored by the States and forest industries; and the work of sportmen's groups, women's clubs, and youth groups.

Conservation Discussion Guide Available

"Concepts of Conservation," a new publication prepared by The Conservation Foundation, is intended for discussion groups interested in the natural resources of the nation, the Wildlife Management Institute reports.

The text of the 48-page booklet highlights the meaning and significance of resources and conservation, and comments specifically on the problems and aspects of soil, water, forest, and wildlife management. Discussion topics and a reading list are presented with each section and in addition there is appended a general reading list, a listing of 16 mm. educational filmstrips and other films. Copies are available at 25 cents each from the Foundation, Box 1812, Grand Central Station, New York, New York, with bulk orders of 50 copies supplied at \$10.00.

Leisure Living

According to a timely new series of articles in THIS WEEK MAGAZINE, a Sunday newspaper supplement, this country has entered a new age since World War II—the Age of Leisure Living. The average employed

citizen is reported to have at least 200 more leisure hours (equivalent to five 40-hour work weeks) than he puts in at the shop, office, or factory! It has meant a return to family living, a rebirth of family cohesion.

Among outdoor participation sports, sport fishing leads the list by a wide margin with 35,600,000 participants credited to it. Boating is next with 25,000,000, followed by bicycling with 22,000,000 and bowling with 17,000,000. One thing not mentioned by THIS WEEK is the strong natural bond between fishing and boating. Well over two-thirds of all people who buy boats and motors do so primarily for fishing purposes.

Americans are said to spend \$33 billion annually for all their playtime pursuits—participation sports and games, attendance at spectator sports, and indulgence of a variety of hobbies. Ten billions go out for vacations and week-ends alone. It is our guess that the two leading and closely allied participation sports of fishing and boating together account for nearly a third of the total, and for the bulk of the vacation and week-end outlay.

Tennessean Editorializes on Conservation

The following statement on conservation appeared as a guest editorial in the April 27, 1956, issue of "Outdoors in Tennessee," a publication of the Tennessee Game and Fish Commission, the Wildlife Management Institute reports:

Breaking or Giving Ground?

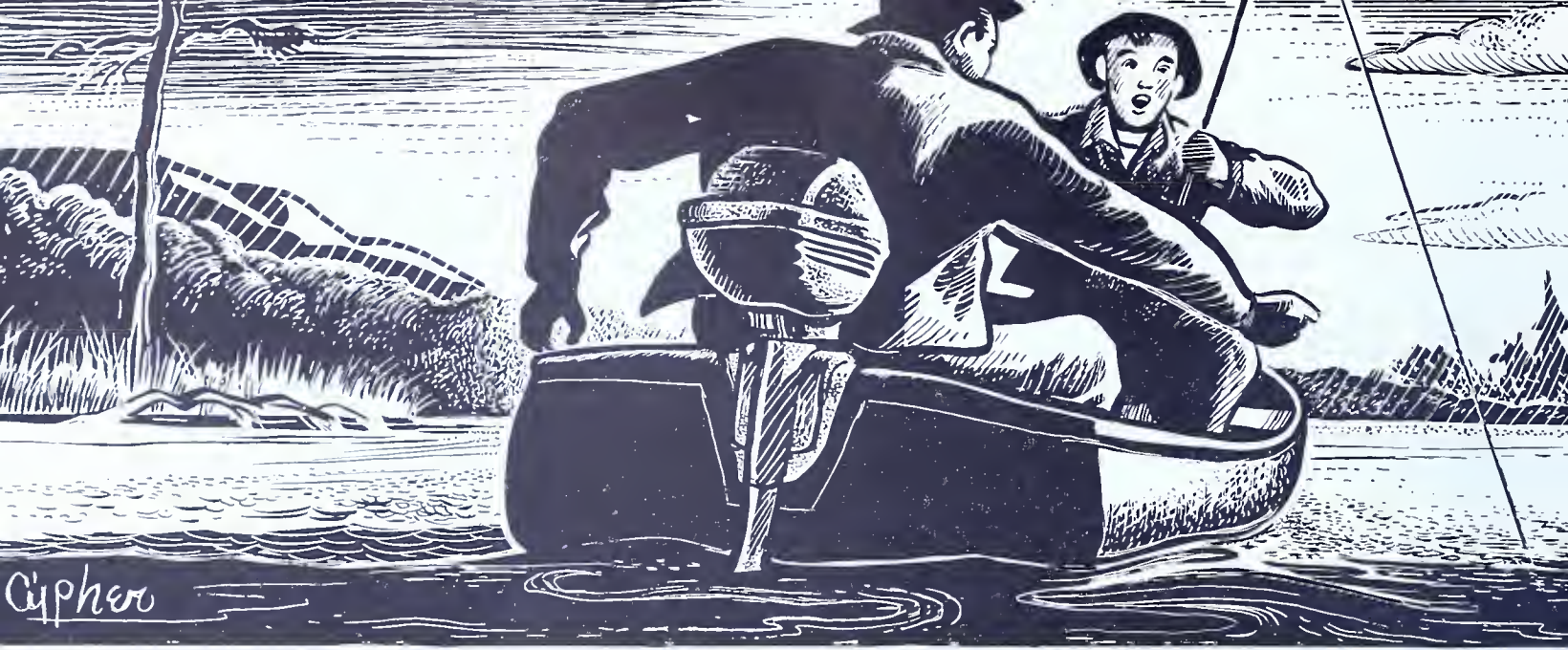
The pastor of a Tennessee church recently said that religion is either "breaking ground" or "giving ground." It was his way of illustrating that work of the Lord in any community moves either forward or backward.

Conservation, in many ways, is similar to religion and, as far as progress can be concerned, there appears to be no "middle ground." Conservation also either progresses or regresses.

There can be no doubt that advances have been made in recent years. The use of forests and cover crops is reducing land erosion and siltation of streams. Forest fires are avoided in most communities and few are intentionally set. Strides are being made in pollution abatement. Tennesseans probably now have their greatest respect in history for laws which protect wildlife. In other words, conservation has become generally recognized as a beneficial movement—a "good thing."

Yet, despite advances, are we moving forward or backward? As a nation are we planting more trees than we remove by one means or another? Do mounting demands of a continually expanding population offset gains in erosion control, pollution abatement or wildlife management?

Much can be done. Conservationists could actively oppose attempted invasions of public-owned parks and forests, monuments and refuges by vested commercial interests. They should investigate purported "land grabs" by the military. They can urge the adoption of sound soil-and-water conservation practices in their home localities. In all, however, it would seem that the greatest need is for conservationists to enlist an ever-growing number of people in the movement, to break ground instead of giving if for the benefit of future generations.



Notes from THE Streams

A Tag Will Tell!

A smallmouth black bass which was stocked in Lake LaBoeuf in Erie County on July 2, 1956, and tagged by Biologist Alfred Larsen, was caught in French Creek, Crawford County, on July 22, 1956, by David G. Wanner, 211 Anthony Street, Pittsburgh, Pa. According to map measurements, the fish traveled downstream more than 22 miles in 20 days.

—S. Carlyle Sheldon,
Northwest Division Supervisor

Let's Hope So!

We will have more trout left in the streams in my district at the end of this season than I have known in the past ten years.

—Arthur L. Walker,
Indiana and Cambria Counties

Lake Trout Thrive In Harvey's Lake

It certainly looks as though the planting of the lake trout fingerling for the past five years in Harvey's Lake is paying off. With the changing of regulations allowing trolling from motorboats, more fishermen are trying their luck for the deep living trout.

The results are very encouraging. One Forty Fort angler came up with an 11-pounder this season as well as several other fishermen catching 2 and 3 pounders. The possibility of some natural reproduction is great also, since a number of the fish checked were not marked.

On examining some of the trout stomachs, smelt or cisco were found. This is another favorable point since the forage fish was introduced to the lake just five years ago.

—John I. Buck,
Luzerne County

Muskie Wins—To Die

While on boat patrol on French Creek July 29, Special Fish Warden Harold Moulton and myself were informed that an elderly man and woman had a big fish down-stream. We proceeded on our way, and as we rounded a bend in the stream, a lady held up a 40" muskellunge which they had found floating on the surface of the stream past their cabin. After examining it, we were informed that a fisherman had a large fish on his line a few days before, but it snapped the line and he never saw it again. It had marks in the roof of its mouth and a large mark on its left side beneath the dorsal fin.

Dragons Attack Sunnies

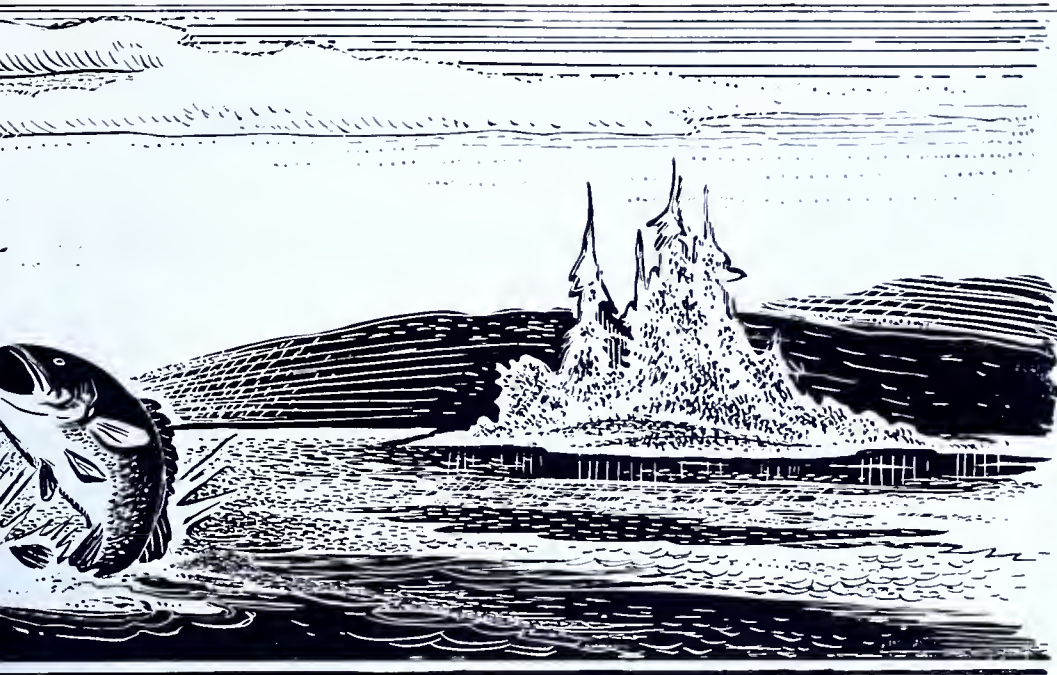
On July 17, Red Giesler, a sports writer for a local paper, come to my headquarters with a dragon fly nymph in a quart jar. He wanted to know what it was and went on to say that a friend of his has goldfish in a pond and noticed that one fish in distress had no eyes. Upon further investigation he caught another goldfish and found five dragon flies clinging to its eye sockets. Referred this information to Biologist Larsen.

—Bert Euliano,
Erie County

Tionesta Yields Big Muskie

According to the records of the ranger at the Tionesta Reservoir, eighteen (18) muskies have been caught since the opening of the season on July 1. The nicest muskie I have seen this season was caught at the Tionesta Reservoir outlet on July 3, by an angler from Saltsburg, Pa. This muskie measured forty-six (46) inches in length and weighed twenty-five (25) pounds.

—Norman L. Blum
Forest and Clarion Counties



Maryland Fisheries Technicians

Visit Bellefonte

As word and knowledge spreads of the development of the Pennsylvania Fish Commission's Benner Springs Fisheries Research Station near Bellefonte, and of the trout breeding and feeding experiments being conducted there, it is becoming a "must" place to visit among out-of-state fisheries managers and personnel.

During the past few months—administrators, technicians and writers from no less than 23 states have included the station on their travel agendas. For some, the visit was a "busman's holiday"—a day out of a vacation. For others like the group from Maryland pictured above, the visit was the sole purpose of their trip.

The Maryland fishery technicians were guided and enlightened during their stay by the Commission's Keen Buss, geneticist; Arthur Bradford, pathologist; Gordon Trembley, Chief Aquatic Biologist; Dr. Albert Hazzard, Assistant Executive Director and Dr. James E. Wright, Associate Professor of Genetics at Pennsylvania State University and advisory geneticist to the Commission.

Upon return to his own desk, Edwin M. Barry, Chief of Inland Fish Management for Maryland, wrote to Gordon Trembley as follows: "We enjoyed so much your review of the program . . . You have impressed us tremendously . . . and please extend our thanks to the . . . personnel who made our annual field trip a success."



Front Row Left to Right: Edwin M. Barry, Chief, Fish Management; Robert Calloway, Richard Speakman, Bruce Fogg, Jack Stowell, Bruce Rubeck, Fred Lawson, Charles Milton, Albert Powell, Chief of Hatcheries.

Back Row Left to Right: Robert C. Davidson, William Booth, Guy Rogers, Sigurd Brantingson, George Palmer, Jack Gilbert, Kermit Lawson, Alton Powell, Leonard Spratt.

Notes - Letters - around the state

Levittown Lake Opened To Fishing

Transfer of title to Levittown Lake and adjoining lands in Levittown, Bucks County, Pa., to the Pennsylvania Fish Commission in early August, added another permanent public fishing area to the lengthening list of such facilities compiled during the past year.

The parcel, totaling 30.73 acres, was a gift to the Commission from Levitt and Sons, Inc., and was conveyed by Richard Geruso, Director of Recreational Facilities for the community building firm. William Voigt, Jr., Executive Director accepted the deed in behalf of the Fish Commission in a brief ceremony along the shore of the lake which comprises approximately 20 acres.

The lake lies wholly within the boundaries of Levittown, a planned community of about 15,000 homes, with schools, churches, shopping centers and recreational areas. When completed sometime next year, Levittown will have more than 17,000 homes.

The lake was created when ground and surface water was allowed to fill a sand and gravel mining operation, abandoned as Levittown grew. It is 18 feet at the deepest point, and presents an average depth of 10 feet. It was stocked with fish earlier by local sportsmen, just prior to the transfer, in anticipation of assuming management and control, the Commission made additional plantings which included bluegills, catfish and largemouth bass.

Along with transfer of the lake property, parking facilities were also assured by the Levitt firm. Added parking space was made available when the Philadelphia Electric Company gave license to use a strip it owns adjoining the lake for the purpose.

Under Fish Commission management, Levittown Lake will be solely a fishing lake. In the plans is provision for the development of boat docking facilities and possibly a boat and refreshment concession. Motorboats, hunting and swimming will be prohibited.

In addition to Commissioner Voigt and Geruso, present on the occasion were C. C. "Jack" Houser, Fish Commissioner for the nine-county southeast region, and C. Robert Glover, Chief of Conservation Education and Public Relations.

Dear Sir:

I just finished reading the current as well as some past issues of the PENNSYLVANIA ANGLER in the library. While there may not be quantity in its pages there is certainly quality, all articles in good taste, pleasingly presented. I thoroughly enjoyed it.

Danver Phillips

Pittsburgh, Pa.



BEGINNING of a new order on Levittown Lake was marked by this uprooting of the "No Trespassing" sign within minutes after transfer of title to the lake and surrounding lands by Levitt & Sons, Inc. to the Fish Commission.

Adult friends of the "uprooters" pictured above are "Jack" Houser, Fish Commissioner on the left; William Voigt, Jr., Executive Director, directing; and Richard Geruso, Director of Recreational Facilities for the community building firm, looking on from the right.

The Tree Toad

*A tree toad loved a she-toad
That lived up in a tree.
She was a three-toed tree toad,
But a two-toed toad was he.
The two-toed tree toad tried to win
The tree toad's friendly nod;
For the two-toed tree toad loved the
ground,
The three-toed tree toad trod.
But vainly the two-toed tree toad
tried—
He couldn't please her whim.
In her tree toad bower, with her
v-toe power,
The she toad vetoed him.*

Dubuque Cue.

ANYONE FOR RATTLESNAKE?

Dear Editor:

While fishing upstate my brother and I killed two large rattlesnakes. As a joke it was suggested we take them home and sample the meat. We now have them in the freezer. The *ANGLER* gives recipes for fish now and then but I bet you can't tell us how to make rattlesnake!

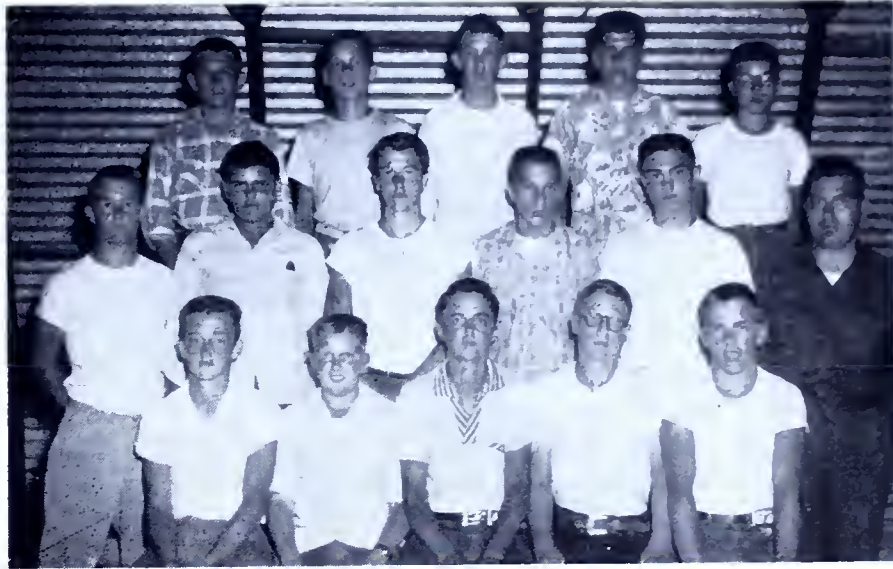
Benny Rothstein

Philadelphia, Pa.

Bet we can! Quite a few of the gentlemen around the Commission usually have a rattlesnake lying around in their freezers. But, . . . cut off the head, skin and clean. Cut meat into 2-inch chunks, soak for three hours in a combination of orange and lemon juice, 1 teaspoon pepper and a bit of nutmeg. Drain the meat, wipe pieces dry with paper towels. Sprinkle with salt, dip in beaten egg then roll in bread or cracker crumbs. Fry the rattlesnake in hot butter until it is golden brown. . . . Ummmmmm!

In conservation like anything else, they can't call you an old dog as long as you're still learning new tricks.

If we don't soon get some more water somewhere that old expression "water over the dam" will be as dead as the last passenger pigeon!



AT CONSERVATION SCHOOL—These boys made history in Pennsylvania by attending the first school of its kind at local level in the state. The Conservation school is being held at the Butler City Hunting and Fishing Club's grounds at East Butler. Front row, left to right: Barry Smiley, Slippery Rock; Dennis Michael, Harrisville; David Ellis, Forestville; Bill Zahniser, Slippery Rock; Bill Lackey, Butler; second row, left to right: Larry Jack, Fairview; Gordon Leech, Butler; Richard Harbison, Marwood; Herb Frantz, West Winfield; Dave Kline, Evans City and Robert B. Boyer, Councilor, Harmony; back row, George West, Slippery Rock; Bob Williams, Petrolia R. D. 1; James Rihel, Boyers; Joseph Graham, Hilliards and William Cunningham, Zelienople.



Sun-Telegraph Photo by Tom Toia.

William Voigt, Jr., executive director of Pennsylvania's Fish Commission, pinning a badge on George L. Phillips, commander of the Coast Guard Auxiliary, naming him deputy warden to patrol Pittsburgh district rivers. Behind Voigt is Harry Brainard, director of the Western Pennsylvania Safety Council. Twelve deputy wardens were sworn in at the Oakmont Boat Club. The wardens will crack down on boating violations.

FINANCIAL REVIEW FOR THE FISCAL YEAR JUNE 1, 1955 TO MAY 31, 1956

BY: JOSEPH J. MICCO, COMPTROLLER

For many years the annual financial report of the Pennsylvania Fish Commission has been presented on a calendar year basis. This year's report is presented on a fiscal year basis to conform with the Commonwealth's official Budgeting and Accounting Period. The Commonwealth's fiscal year begins on June 1 of each year and ends on May 31 of the succeeding year.

The change in reporting dates, coupled with the installation of a new accounting system and the problems accompanying such changes, were the major contributing factors for the delay in the preparation of the report.

An examination of Schedule Number IV reveals that the Commission began operations on June 1, 1955 with a cash balance of \$1,440,560.87. Revenues from all sources during the fiscal year amounted to \$2,122,104.71, making a grand total of \$3,562,665.58 available for its over-all program. The net expenditures during the year amount to \$2,183,205.80 leaving a cash balance of \$1,379,459.78 in the Fish Fund on May 31, 1956.

The cash balance in the Fish Fund at the close of a fiscal year is not all surplus as many have been erroneously led to believe. In the course of normal operations there remains at the close of each year liabilities and working reserves which have to be paid and be supported with this balance.

Schedule number I of this report shows the obligations as well as the net financial position of the Commission as of May 31, 1956. The following explanation is offered in support and clarification of the Liabilities and Reserves:

1. Vouchers payable in the amount of \$13,094.83 are operating expenses which were processed for payment to the Fiscal Offices prior to May 31, 1956 but as of said date had not been paid.

2. Encumbrances in the amount of \$375,453.68 represents executed contracts for the purchase of Materials & Supplies, Fish Food, Automotive Equipment, Rentals and other operating expenses. (\$53,745.36 of this amount

was incurred by the Department of Revenue in connection with the printing and issuing of Fishing Licenses).

3. Reserve for Allotments Continued in the amount of \$178,564.56. The purposes for which the allotments were continued are as follows:

- A. \$110,166.00 for acquisition of Land and Waters.
- B. \$43,672.30 for development, renovation and new construction on various projects
- C. \$14,060.52 for the purchase of a minimum of sorely needed equipment for the Laboratory at Benner Spring.
- D. \$10,665.74 for the payment of "Direct Expenditure Items" (not previously encumbered) the majority of which were in transit from Bellefonte to the central office in Harrisburg.

All of the continued allotments are in addition to the funds budgeted in the current fiscal year for like purposes.

4. Reserve for Working Capital in the amount of \$700,000.00, a requirement to enable the Commission to carry on normal operations during the seven month period September through March of each fiscal year at which time the expenditures far exceed income.

5. The net balance of \$112,346.71 is a welcome result of the actual revenues for the fiscal year exceeding estimates by \$213,000.00. An increase in the sales of Resident, Non-Resident and Motor Boat Licenses accounted for the additional revenues. If the additional revenues had not been realized, a reduction in Working Capital would have been the result.

Schedule number II is presented as a part of this report in order to account for the Commissions operations from December 31, 1954 the ending date of the last published calendar year report, to June 1, 1955 the beginning date of this fiscal year report.

AUDIT OF THE FUND

By an Act of the General Assembly, the Auditor General is required to audit the accounts and affairs of all State Departments,

Boards and Commissions at least once each year. The last formal audit of the Commission covered the fiscal year ended May 31, 1955 and we are pleased to report all accounts were found to be in order.

Additional safeguards and controls imposed upon all Departments, Boards and Commissions are:

1. The mandatory requirement that all invoices, payrolls and other operating expenses must be audited by the Auditor General and

State Treasury Departments before payment.

2. The mandatory reporting daily, of all financial transactions to the Governor's Bureau of Accounts and Controls.

3. The control exercised by the Governor's Budget Secretary over all requests for quarterly budget allotments and all other budget matters.

4. The periodic verification of Departmental Accounts with those maintained by the Auditor General's Department, the State Treasury and the Governor's Bureau of Accounts and Controls.

SCHEDULE NO. I			
CONSOLIDATED STATEMENT OF FINANCIAL POSITION			
AS OF MAY 31, 1956			
CASH			\$1,379,453.78
LESS: LIABILITIES & RESERVES			
VOUCHERS PAYABLE	\$ 13,094.83		
ENCUMBRANCES	375,453.68		
RESERVE FOR 1955-56 ALLOTMENTS CONTINUED	178,564.56		
RESERVE FOR WORKING CAPITAL	700,000.00	1,267,113.07	
NET BALANCE			\$ 112,346.71

SCHEDULE NO. II
PENNSYLVANIA FISH COMMISSION
STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES
FISCAL PERIOD JANUARY 1, 1955 TO MAY 31, 1955

REVENUE		
Cash Balance December 31, 1954 (From Fish Commission Report)		\$1,086,919.96
Receipts January 1, 1955 to May 31, 1955		
Resident Licenses	\$1,041,444.71	
Non-Resident and Tourist Licenses	44,191.85	
Fines	7,756.00	
Interest	8,012.29	
Motor Boat Licenses	26,965.75	
Contributions	10,750.00	
Federal Government (Dingle-Johnson)	52,987.02	
Miscellaneous	16,374.12	
Total Receipts From All Sources		1,208,481.74
Total Funds Available During Five Months		\$2,295,401.70

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS		
Administrative Office	\$ 39,761.92	
Salaries and Expenses of Wardens	123,380.15	
Hatchery Operation	407,166.16	
Boat Patrol	338.11	
Field Work	17,272.79	
Purchase of Land and Waters	—0—	
Construction, Buildings and Ponds	—0—	
Education and Publicity	34,222.99	
Refunded Fines	—0—	
Stores	1,111.04	
Management	25,958.01	
(Act No. 283—1947)		
Acquisition of Land and Fishing Waters	51,803.07	
Rebuilding of Torn Out Dams	—0—	
Problems Related to Better Fishing (Research)	91,845.55	
Total Expenditures by Fish Commission		\$ 792,859.79
*Contributions to State Employees' Retirement System (Through Dept. of State)		14,421.25
*Printing Fishing Licenses, Tags and Miscellaneous Forms (Through Dept. of Revenue)		47,559.79
Total Expenditures of Fish Fund		\$ 854,840.83
Cash in State Treasury to Credit of "Fish Fund" May 31, 1955		\$1,440,560.87

* The items are paid out of the "Fish Fund" upon Requisitions drawn by the Department of Revenue and Department of State are included to complete the picture of the "Fish Fund" finances.

SCHEDULE NO. III

EXPENDITURES IN COMPLIANCE WITH ACT NO. 283—SESSION OF 1947

Act No. 283, Scssion 1947, provides that effective the first day of January 1948, twenty-five cents (25¢) from each resident fishing license fee shall be used exclusively for (I) The acquisition of land and fishing waters, (II) The rebuilding of torn out dams, and (III) The study of problems related to better fishing. Expenditures during the calendar year are shown in detail below.

FISCAL PERIOD, JANUARY 1, 1955 TO MAY 31, 1955

Object No. Major Minor	Account Classification	Acquisition of Land and Fishing Water	Research	Total
10	SALARIES AND WAGES	\$ 20,566.47	\$ 35,127.54	\$ 55,694.01
11	Salaries	1,437.50	3,717.50	5,155.00
12	Wages	17,982.24	31,410.04	49,392.28
13	Fees	1,146.73	—0—	1,146.73
20	OTHER OPERATING EXPENSES	9,806.53	53,034.60	62,841.13
21	Printing, Binding and Stationery	—0—	8.00	8.00
22	Food and Forage	—0—	13,301.38	13,301.38
23	Materials and Supplies	9,806.53	39,725.22	49,531.75
30	TRANSPORTATION, COMMUNICATION, INFORMATION	2,338.60	2,664.76	5,003.36
31	Traveling Expenses	1,612.56	937.45	2,552.01
32	Motor Vehicle Supplies and Repairs	347.18	1,539.70	1,946.88
33	Freight, Express and Cartage	—0—	20.36	20.36
35	Telephone and Telegraph	378.86	105.25	484.11
40	MAINTENANCE SERVICES AND EXPENSES	8,719.20	738.23	9,457.43
41	Light, Heat, Water, Power, Sewage and Fuel	165.65	350.53	516.18
42	Contracted Repairs	177.95	26.03	203.98
43	Rent of Real Estate	480.00	—0—	480.00
44	Rent of Equipment	7,774.79	33.00	7,807.79
45	Insurance, Surety and Fidelity Bonds	120.81	328.67	449.48
50	OUTLAY FOR LANDS, STRUCTURES AND IMPROVEMENTS ...	10,372.27	280.42	10,652.69
53	Equipment and Machinery	463.58	280.42	750.00
54	Purchase of Land	9,902.63	—0—	9,902.69
	TOTAL	\$ 51,803.07	\$ 91,845.55	\$143,648.62*

* During the period covered, there were no expenditures for the reconstruction of torn out dams.

FISCAL YEAR, JUNE 1, 1955 TO MAY 31, 1956

10	SALARIES AND WAGES	\$ 7,720.39	\$138,241.18	\$145,961.57
11	Salaries	4,649.00	23,751.85	28,400.85
12	Wages	3,071.39	114,489.33	117,560.72
20	OTHER OPERATING EXPENSES	5,989.76	52,563.97	58,553.73
21	Printing, Binding and Stationery	1.00	76.83	77.83
22	Food and Forage	—0—	14,098.13	14,098.13
23	Materials and Supplies	213.54	24,652.47	24,866.01
24	Fees and Contracted Professional Services	2,851.15	25.91	2,877.06
25	Traveling Expenses	1,573.02	7,758.08	9,331.10
26	Motor Vehicle Supplies and Repairs	364.34	2,604.34	2,968.68
27	Postage	10.00	49.64	59.64
28	Telephone and Telegraph	110.30	733.20	843.50
32	Light, Heat, Power, Water, Sewage, and Fuel	186.09	774.74	960.83
33	Contracted Repairs	18.40	280.90	299.30
34	Rent of Real Estate	618.75	100.50	719.25
35	Rent of Equipment	—0—	1,183.33	1,183.33
36	Insurance, Surety and Fidelity Bonds	38.45	214.13	252.58
39	Other Operating Services and Expenses	4.72	11.77	16.49
40	EQUIPMENT	—0—	1,560.99	1,560.99
43	Other Equipment and Machinery	—0—	1,560.99	1,560.99
50	OUTLAY FOR LANDS, STRUCTURES AND IMPROVEMENTS ...	103,842.60	—0—	103,842.60
51	Land	103,842.60	—0—	103,842.60
	TOTAL	\$117,552.75	\$192,366.14	\$309,918.89*

* During the period covered, there were no expenditures for the reconstruction of torn out dams.

STATEMENT OF RECEIPTS AND EXPENDITURES

Year	Receipts	Expenditures	Under-Expended or Over-Expended (Cr.) For the Year	Cumulative to Date
1948	\$147,862.50	\$ 21,358.83	\$126,503.67	\$126,503.67
1949	154,810.80	34,435.89	120,374.91	246,878.58
1950	151,654.39	69,131.37	85,523.02	332,401.60
1951	160,672.80	133,751.28	26,921.52	359,323.12
1952	172,929.89	393,806.82	220,876.93 (Cr.)	138,446.19
1953	175,821.98	341,310.89	165,488.91 (Cr.)	27,042.72 (Cr.)
1954	174,033.58	331,991.35	157,957.77 (Cr.)	185,000.49 (Cr.)
1955 Jan. to May	104,144.25	143,648.62	39,504.37 (Cr.)	224,504.86 (Cr.)
1956 Fiscal Year Ending May 31, 1956	173,129.00	309,918.89	136,789.89 (Cr.)	361,294.75 (Cr.)

SCHEDULE NO. IV

PENNSYLVANIA FISH COMMISSION

STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES

FISCAL YEAR JUNE 1, 1955 TO MAY 31, 1956

REVENUE

Cash in State Treasury to credit of "Fish Fund" June 1, 1955	\$1,440,560.87
Receipts June 1, 1955 to May 31, 1956	
Resident Fishing Licenses	\$1,731,290.54
Nonresident Fishing Licenses	84,822.85
Nonresident Trout Stamps	2,022.20
Special Eel Licenses	10.00
Motor Boat Licenses	87,701.75
Tourist Fishing Licenses	23,455.30
Lake Erie Licenses	3,163.00
Commercial Hatchery Licenses	3,460.00
Farm Fish Pond Licenses	24.00
Fee Fishing Lake Licenses	3,631.35
Fish Law Fines	17,576.00
Motor Boat Fines	2,180.00
Interest on Deposits	13,212.24
Sale of Unserviceable Property (P. & S.)	101.00
Contributions for Restocking Streams	16,100.00
Contributions from Federal Government (D. J.)	120,044.56
Sale of Publications	11,720.35
Miscellaneous Revenue	427.45
Refund of Expenditures—not credited to Allocations	1,162.12
Sale of Confiscated Property	
Total Receipts from All Sources	2,122,104.71
Total Funds available during Year	\$3,562,665.58

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification	Exec. Off. and Acct'g	Division of Adminis- tration	Division of Fish Propagation	Division of Research	Division of Law En- forcement	Division of Con- servation Education	Division of Land & Water Man- agement	Commission Total
Salaries	\$36,002.12	\$15,789.59	\$ 260,625.50	\$ 23,401.50	\$216,638.08	\$ 9,587.00	\$ 15,105.50	\$ 577,149.29
Wages	1,485.31	6,164.77	377,357.58	106,685.63	18,808.08	13,741.63	57,055.61	581,298.67
Printing and Stationery	207.00	22,782.35	237.07	17.42	332.52	27,455.77	18.21	51,052.34
Food and Forage			263,834.36	14,098.13				282,932.49
Materials and Supplies	384.74	446.70	56,318.59	23,389.59	3,584.24	2,558.08	34,293.61	120,975.55
Fees and Professional Services	8,274.00		8.20	25.91	307.04	4,071.50	2,790.40	15,477.05
Traveling Expenses	6,560.31	275.38	12,703.32	7,046.85	70,562.25	1,848.63	6,351.56	105,348.30
Motor Vehicle Supplies	636.18		34,903.49	2,384.20			827.17	38,751.04
Postage	1,659.20	886.80	1,119.80	49.64	389.18	1,244.75	20.00	5,361.37
Telephone and Telegraph ..	1,928.46	645.02	5,548.00	718.05	5,152.52	205.00	508.60	14,705.65
Light, Heat, Power and Fuel			31,261.40	774.74	36.04	321.93	200.41	32,537.52
Contracted Repairs	63.19	66.84	1,438.76	280.90	611.06	422.68	113.81	2,997.24
Rent of Real Estate			2,839.50	100.50	395.83		621.75	3,957.58
Rent of Equipment	93.58	5.50	982.09	1,129.33		22.00	32,637.88	34,920.38
Insurance	63.24	42.17	827.90	133.86	397.92	4.23	25.93	1,501.25
Other Operating Services ...	274.25	170.19	1,092.44	11.77	391.84	23.35	54.24	2,018.08
Motor Vehicles								
Equipment and Machinery ..	2,515.45	1,362.43	4,617.88	1,560.99	4,562.01	219.67	2,464.88	17,303.31
Land and Waters							31,250.00	31,250.00
Buildings and Structures ...								
Grants & Subsidies								
Refund of Receipts	135.00							135.00
TOTALS TO DATE	\$60,282.03	\$48,637.74	\$1,060,720.88	\$181,815.07	\$322,168.61	\$ 61,726.22	\$184,389.56	\$1,919,740.11
Expenditures applicable to Prior Biennium (Fish Commission)								171,196.79
Contributions to State Employees' Retirement System—(through Department of State)*								59,388.00
Printing Fishing Licenses, Tags and Misc. Forms—(through Department of Revenue)*								45,934.26
TOTAL EXPENDITURES								
								\$2,196,259.16

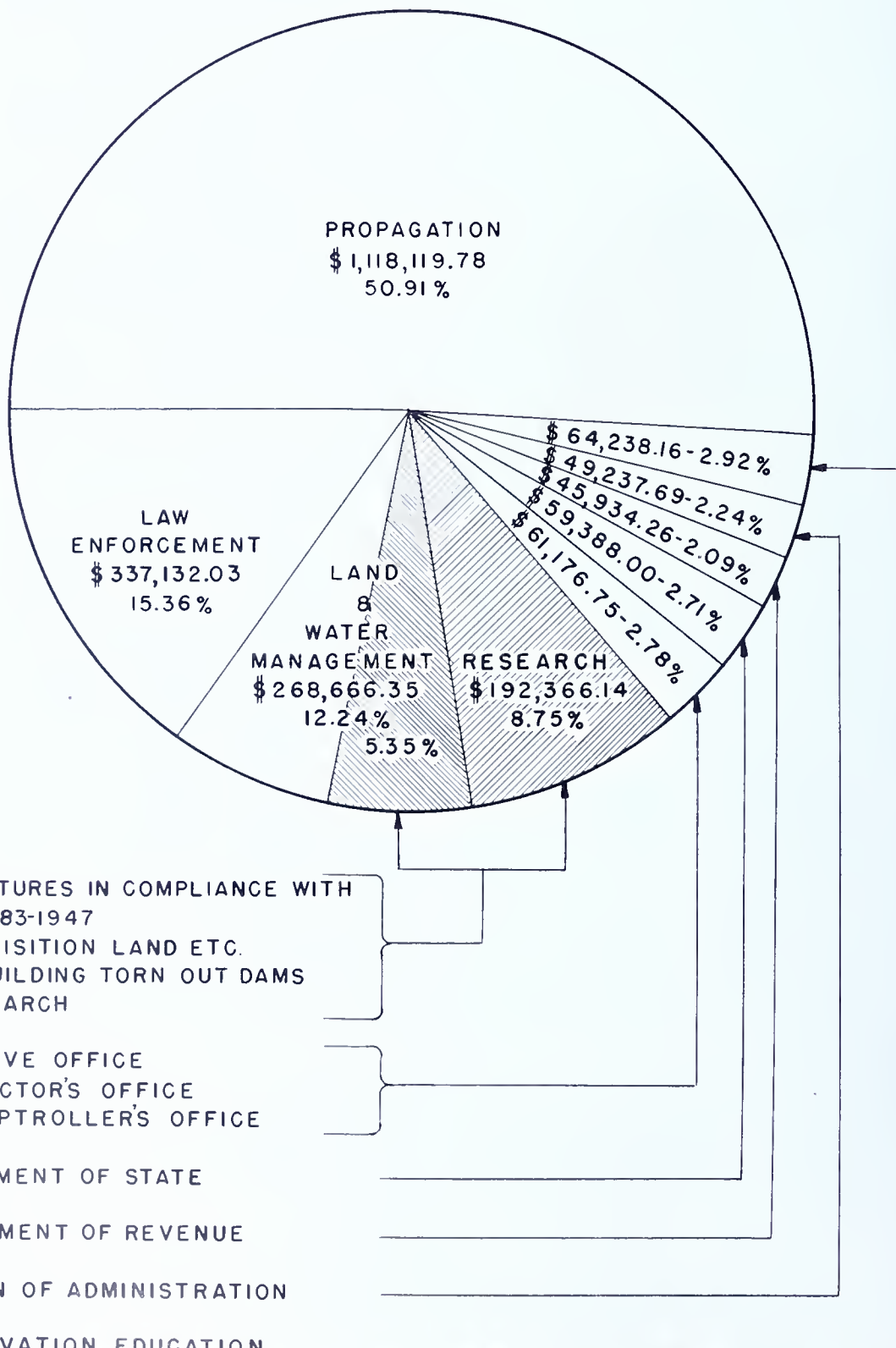
Cash Balance May 31, 1956

Plus: Unpaid Vouchers in Fiscal Offices as of May 31, 1956

Cash Balance in State Treasury to the Credit of the "Fish Fund" May 31, 1956

* The Items are Paid out of the "Fish Fund" upon Requisitions drawn by The Department of Revenue and Department of State and are included to complete the picture of the "Fish Fund" Finances.

COMMONWEALTH OF PENNSYLVANIA
 PENNSYLVANIA FISH COMMISSION
HOW THE FISHERMAN'S DOLLAR WAS SPENT
 EXPENDITURES FOR THE FISCAL YEAR JUNE 1, 1955 TO MAY 31, 1956
 TOTAL = \$ 2,196,259.16



PENNSYLVANIA

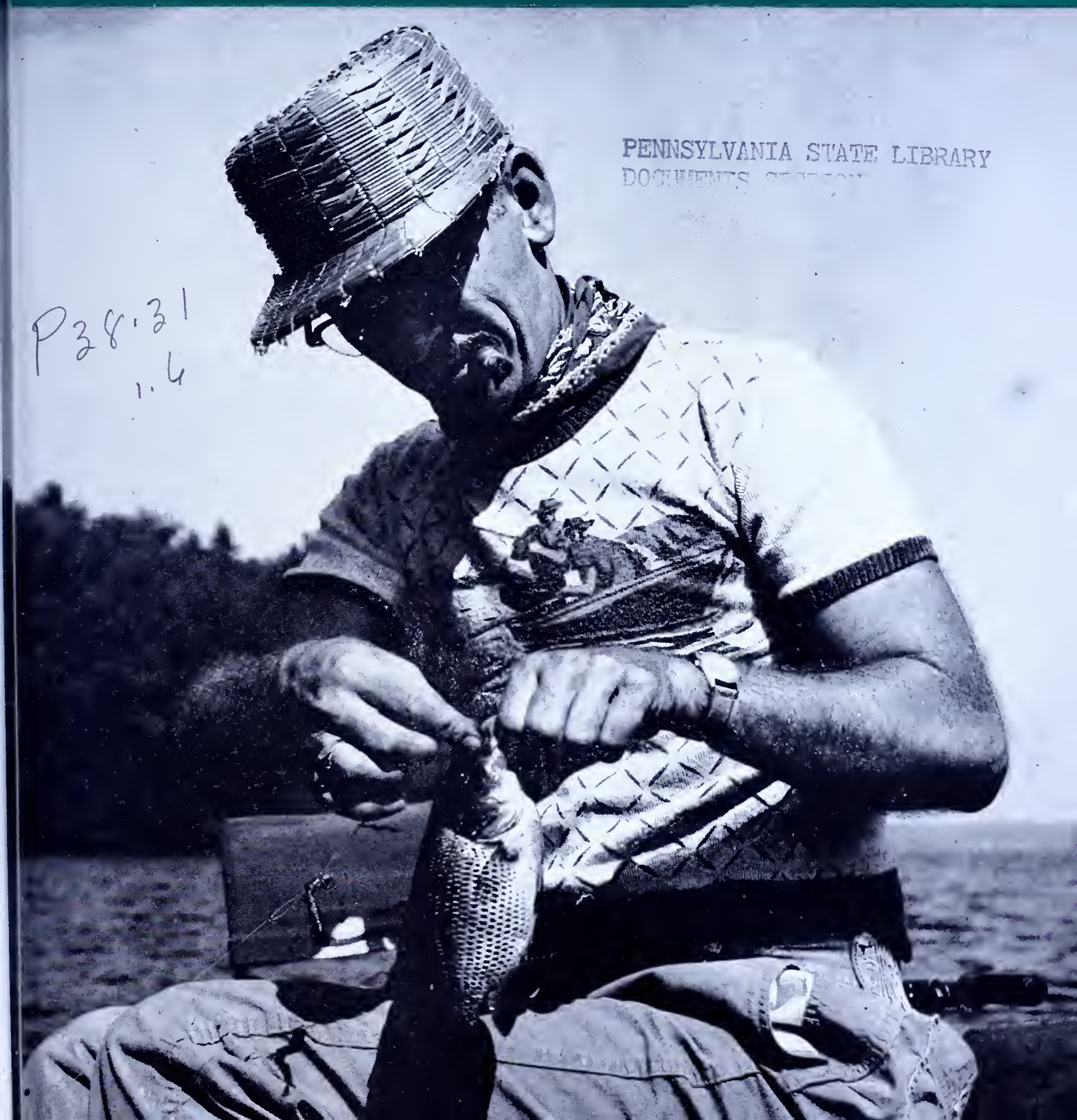
ANGLER

OCTOBER 1956

PENNSYLVANIA FISH COMMISSION

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Drinking Water and Fishing

San Diego has permitted angling on its water supply reservoirs for many years. A small fee is charged, and certain sanitary regulations are enforced. Every year thousands of fishermen enjoy fishing on these drinking water supplies, and no disease carried by water has ever been traced to fishing being permitted there.



Progressive Policy—Permits Fishing

New York, Tulsa, Boston, and many other municipalities allow fishing on their water supply reservoirs. These cities recognize that good drinking water is also good fishing water. Officials who oppose fishing on water supply reservoirs just don't want to be bothered by fishermen.



Primitive Policy—Prohibits Fishing

We need good drinking water. It is important to our health. We need healthful recreation, too. Waters which supply one of these needs can supply the other as well. Our population is growing, and we can no longer consider single use of our resources. Today, with modern purification methods, we can enjoy our water and drink it, too.

**COMMONWEALTH OF
PENNSYLVANIA**

HON. GEORGE M. LEADER
GOVERNOR

★

**PENNSYLVANIA
FISH COMMISSION**

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REGIONAL WARDEN SUPERVISORS

Northwest Region

CARLYLE S. SHELDON
Conneautville, Pa.; Phone 3033

Southwest Region

MINTER C. JONES
361 W. Lincoln St., Somerset, Pa.;
Phone 5324

North Central Region

C. W. SHEARER
200 Agnew St., Mill Hall, Pa.;
Phone 375

South Central Region

HAROLD CORBIN
521 13th St., Huntingdon, Pa.; Phone 1202

Northeast Region

RALPH O. SINGER
456 Main St., Honesdale, Pa.;
Phone 1485

Southeast Region

JOHN S. OGDEN
York, Pa.; Phone 47-3028

PENNSYLVANIA ANGLER

OCTOBER 1956



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J. Allen Barrett, Editor

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"Find-Out" Floats Pay Off!

by C. Robert Glover, Chief
Conservation Education
Pennsylvania Fish Commission



(photo by Paul Blair)

THREE OF THE five craft used in the Allegheny expedition moving downstream from Oil City. Aboard on the left is Bill Walsh, forward, and the Fish Commission's Bill Voigt on the motor. Bob Parleman and LeRoy Sorenson in the middle "Traveler," with Eldy Johnson, wearing the cap, Shyrl Hood, aft, and Hayes Englert, forward, in the craft on the right.

This is the first of a two part report, wherein vital statistics are presented, warmed up by pictures. Part two to appear in the November ANGLER will carry the reports of the Outdoor Writers' contingents on the floats described, as presented in their respective columns and radio programs across the State. From samples already submitted, there is some good reading and surprises in store. In any event . . .

A lot of good fishing is going begging in Pennsylvania! That was the unanimous conclusion reached by sixty-one men representing the Fish Commission, the Game Commission, the Forests and Waters Department of Pennsylvania, the Pennsylvania Outdoor Writers Association and the Pennsylvania Federation of Sportsmens Clubs, when on September 30 they wrapped up after 3-day float trips down portions of the State's four major rivers—the Allegheny, the North Branch of the Susquehanna, the Juniata and the Delaware.

Three trips almost didn't happen. The high, murky water that greeted the expedition when they arrived at its respective put-in point, gave rise to a "shall we" discussion among the groups. Several days of rain that preceded the planned September 28 launchings and the

threat of more, presented conditions that were anything but conducive of fishing success. And to explore what the rivers had to offer in the way of fishing-on-the-float was one of the reasons for the undertaking. A primary purpose



(Photo by Tom Forbes)

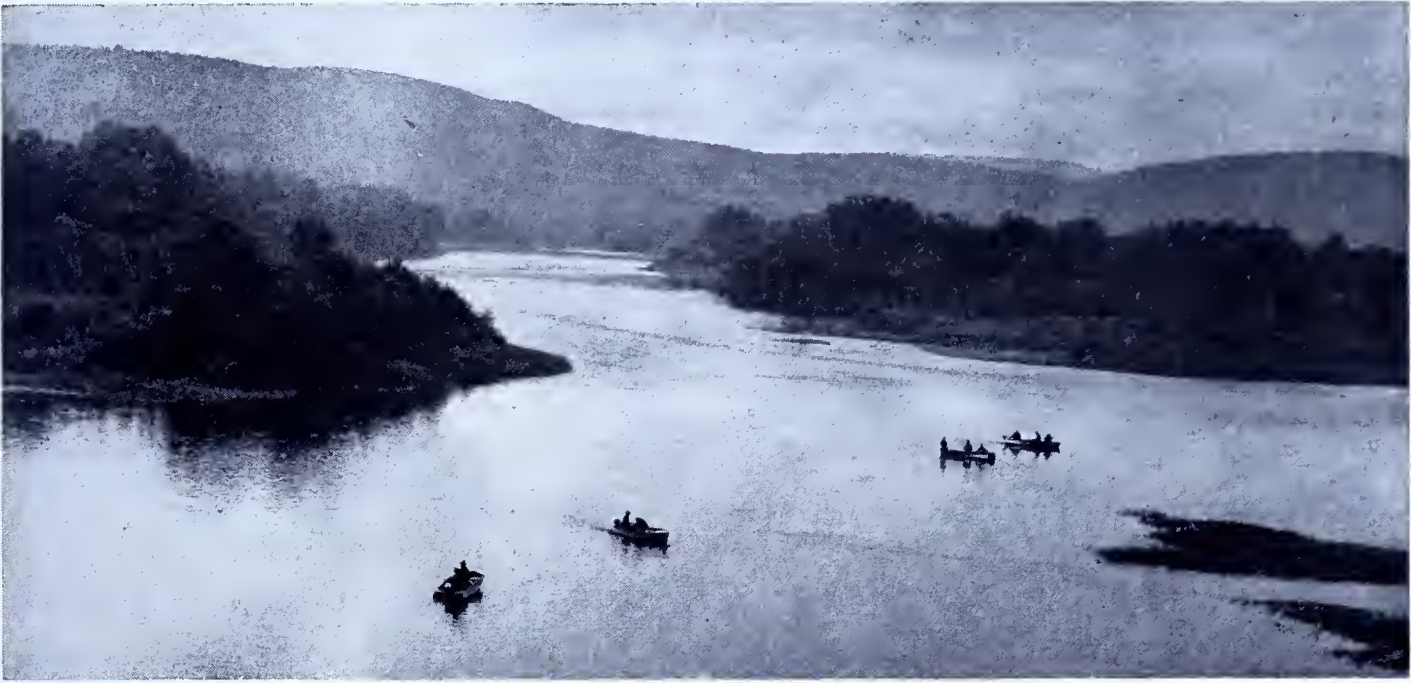
RIVER FLOATS offer other sporting possibilities as was well demonstrated by the Game Commission's Bob Latimer. John Buck holds up one of the many crows Bob downed on the Delaware float. Ducks and squirrels in season may well be added attractions.

set forth by William Voigt, Jr., Executive Director of the Fish Commission, was to seek out

suitable sites along the rivers that could be developed into access areas for the public.

Fishermen, however, being of a slightly different bent than otherwise normal folks, nothing short of flood and deluge would have de-

od on many midwestern rivers of the country, and highly successful. Bill Voigt, as Executive Director of the Izaak Walton League of America, prior to coming to Pennsylvania, has seen a lot of it. He also sees it as a means of ans-



(Photo by Dave Fisher)

THE FOUR BOAT expedition just after "put-in" on the North Branch of the Susquehanna River downstream from the bridge at Towanda.

tered any group. So, onto their respective expeditions each group embarked—on the Delaware, above Narrowsburg; on the North Branch, at Sayre; on the Juniata at Ryde; on the Allegheny, at Warren.

Float fishing is a commonly employed meth-

wering one of the most of asked questions by the fishermen of Pennsylvania, whose angling destiny he was called upon to help resolve—"Where to fish?" The one possible deterrent that occurred during early efforts to determine why so few Pennsylvanian's float fished was the existence of relatively few boat liveries or other points at which fishermen could get their own boats into the rivers. To do justice to those big waters, a boat is almost a must.



(Photo by Alvin Grove)

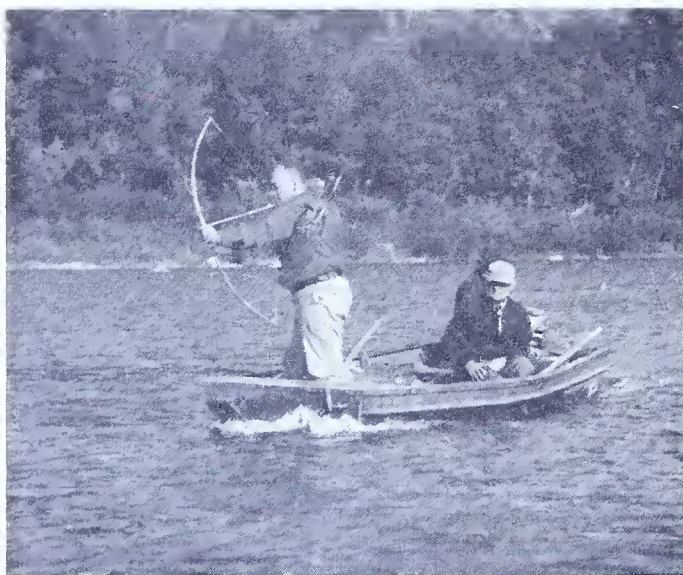
JUST BELOW the Buckwater Falls in the Juniata between Newport and Amity Hall, over which the boats were dropped via rope. On the left in boots is Harold Corbin. Seated behind him in the boat is Bob Glover. In the checkered shirt (center) is Richard Thorpe. Seated in the second boat is John Grenoble, left to right from whom is Warren Hammer, "Cy" Singer, Bob Fasnecht and Bryce Carnell.



(photo by Paul Blair)

A FEW "keepers" from the Allegheny for the pan. Posed by Bob Parlaman of the Pennsylvania Game Commission (left) is a pair of walleye. Harold Solomon, fish warden on the right, is behind the three smallmouth bass.

The idea was first tried on the Pennsylvania Outdoor Writers for size at State College last June. They liked the fit, as did the members of the Fish Commission when the idea was laid before them. The writers teamed up with the Commission in laying the plans.



JACOB KINTZ swapped the rod and line for the bow and arrow and called directions to John Buck at the motor in the pursuit of a Delaware River carp. "T'was big enough to put a saddle on," says John. It got away. Bob Latimer went along for the ride.

In the early stages, both groups felt that in addition to serving the purposes initially outlined, the floats should prove helpful in providing information of value to other State agencies and groups similarly concerned with improving the general outdoors recreational picture. Thus, the Department of Forests and Waters, the Game Commission and the Federation of Sportsmen were invited to partici-

patc. All accepted promptly and enthusiastically.

The merit of the move was borne out as the floats progressed. To the Fish Commission's purposes of seeking out access sites and exploring the potential of float fishing, was added better knowledge of our waterways, and what they had to offer in their respective realms to the Forests and Waters and Game Departments. Possible camping, picnicking and swimming areas were noted by Forests and Waters. Pinpointed for the Game Commission was how hunting likewise could be spread out by employing the float technique, with crows and with ducks and squirrels, in season, as the objectives.

In organizing the compliments of the floats,



(Photo by Will Johns)

A PAIR of Juniata smallmouths held up for a closer look by Alvin "Buss" Grove (left), John Grenoble (center) and Francis Kemp (right).



FIRST NIGHT camp site of the Delaware "float" on the property of Dr. William McKay, near Masthope, typical of the overnight camps set up by each expedition.



IT WAS NOT all fun and exploration for fish and access sites. Some of the boats (and motors) had seen better days, and need replacement. Here three float trippers take time out from fishing to bail out a leaky boat. PS: They made it, all right.



THE ALLEGHENY "float" compliment in the first night's camp, on the Fred Bupp farm, just below Tidioute. Front kneeling, left to right, C. Paul Blair, Robert Parlamen, Hayes Englert. Front row standing, left to right: William Voigt, John Mock, Eldy Johnston, William Walsh, Seth Myers, Shyrl Hood. Back row, left to right: Charles Merroth, LeRoy Sorenson, Gaylord Wentworth, Harold Solomon, James Grove, Ken Corey, James Lauer and Jake Knisely. Missing for the picture were Steve Sczalowixz and Warden Norman Blum.

care was taken that at least one representative of each of the five interested groups was assigned to each float. In that manner, the three state agencies, the writers and the sportsmen were certain to gain firsthand information. And they did.

Observers for the Game Commission included Hayes T. Englert and Bob Parlamen on the Allegheny; Will Johns, Game News Editor, on the Juniata; Paul Failor on the North Branch, and Robert Latimer on the Delaware River. Representing the Department of Forests

and Waters in similar order were Charles S. Merroth, Richard Thorpe, Boyer Kantz and Jacob Kintz.

Representing the Pennsylvania Federation of Sportsmen's Clubs were Gaylord Wentworth, Guys Mills, on the Allegheny; Bob Fasnacht, Ephrata, on the Juniata; E. B. Oakman, Huntingdon, on the North Branch and Elliott J. Goldman, Philadelphia, on the Delaware.

For the host agency, it was William Voigt, Executive Director, serving as manager for the Allegheny float. With him were wardens Har-



ACTION ON the Delaware.
Jacob Kintz vs what proved
to be a 3½-pound small-
mouth. Standing by with
the net is Bob Latimer.
John Buck at the oars.

old Solomon and Kenneth Corey; James Grove of the Tionesta Station; Sheryl Hood of the Linesville Station and LeRoy Sorenson of the Corry Hatchery serving as boatmen. Jake Knisley of the Bellefonte Hatchery was camp cook, assisted on shore by James Lauer of the Tionesta Station and Warden Norman Blum.

Among the writers and radio commentators on the Allegheny trip were Bill Walsh of the *Erie Times*, Seth Myers of the *Sharon Herald*, C. Paul Blair of WPIC, Sharon, John Mock of the *Pittsburgh Press*, Eldy Johnson of the *McKeesport Daily News* and Steve Szalewicz of the *Oil City Derrick*. The Allegheny put-in was at Warren, with overnight camps set up at Tidioute, then President. The take-out point was Franklin.

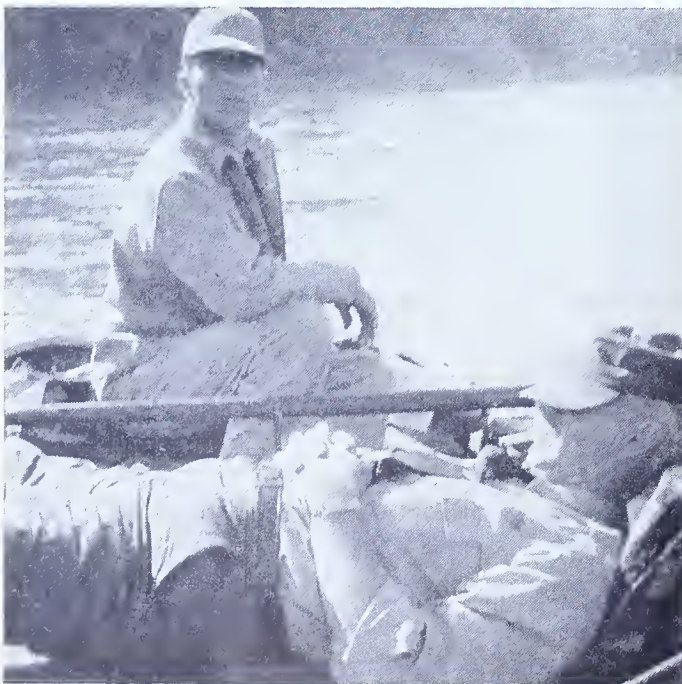
For the Fish Commission on the Juniata float, Commissioner John Grenoble was the expedition manager, with Wardens Bryce Carnell, Richard Owens and Harold Corbin and



NO POSSIBLE access here and the precipice is a physical feature common to many stretches of Pennsylvania's major rivers. They combine with highways, railroads, towns, summer cottage developments and farms under cultivation to limit possible public access sites. And as time goes on the latter will become fewer and costlier.

Warren Hammer of the Reynoldsdale Hatchery serving as boatmen. Warden Charles Long was the camp cook, aided by Arthur Way of the Reynoldsdale Hatchery and Warden William McIlroy. The writers were Alvin R. Grove of the *Centre Daily Times*, President of the PO-WA, Francis Kemp of the *Huntingdon Daily News* and Cy Singer of WFBG-TV, Altoona. The float started at Ryde above Lewistown. The Girl Scout Camp at Granville was the first overnight camping site. The group spent the second night on the Petersheim Farm at Muskrat Spring near Mexico. Amity Hall was the take-out point.

Cyril G. Regan, Land and Water Acquisition Chief managed the North Branch expedition. Others of the Fish Commission, and serving as boatmen were Warden Willard Persun; Richard Reppert, Fisheries Manager and Walter Terry and William Polivka of the Pleasant Mount Hatchery. Jim May of the Bellefonte Hatchery served as camp cook, aided by Philip Spencer of the Pleasant Mount Hatchery. The Outdoor Writers aboard were Dave Fisher of



(Photo by Joe Carricato)

FEHLER THEN "takes forty" (the cigarette went out) while Willard G. Persun sees to the navigation.



(Photo by Tom Forbes)

JOHN FIGNAR, writer from Coaldale, put this one back into the Delaware.

Towanda, Joe Carricato of the *Harrisburg Patriot-News*, Frank Stout of the *Scranton Times* and Ralph Trax of the *Wilkes-Barre Sunday Independent*. The put-in point on the North Branch was Sayre. First night camp was Towanda, second night camp at Wyalusing. The take-out point was the Hahn Love Farm near Mehoopany.

The fourth expedition on the Delaware River was managed by Dr. Albert S. Hazzard, Assistant Executive Director of the Fish Commission. Other Fish Commission personnel included Wardens Joseph Bartley, John Buck and



(Photo by Joe Carricato)

PAUL FEHLER, Pennsylvania Game Commission, and small-fry friend (SM Bass), on the North Branch, no less attracted to his own bug creation than the larger of the species which Paul does well with on his home fishing grounds in the lower Susquehanna near Middletown.

Harland Reynolds and Charles Stark of the Pleasant Mount Hatchery, all serving as boatmen. Glen Spencer of the Pleasant Mount Hatchery was the camp cook, assisted by Daniel O'Neill of Pleasant Mount. Harold Stitzer of Bellefonte was an observer for access areas. The Outdoor Writers on the trip were John Fignar of the *Tamaqua Courier* and Tom Forbes, author, of Camp Hill.

The Delaware put-in point was at Tighe's Boat Livery above Narrowsburg. Overnight camps were set up at Masthope on the first night and Pond Eddy the second night. The take-out point late Sunday evening was near Milford.

(Continued next month)

PENNSYLVANIA FEDERATION OF SPORTSMEN'S CLUBS REORGANIZES

Steve Emanuel Of Wilkes-Barre Elevated To Presidency At Annual Conclave In Harrisburg, September 22, 1956

The annual convention of the Pennsylvania Federation of Sportsmen's clubs convened in Harrisburg Friday and Saturday, September 21-22. Numerous resolutions affecting both fishing and hunting were adopted and recommended for action to the Pennsylvania Fish Commission and to the Pennsylvania Game Commission. A detailed report of the resolutions affecting the public fishing program in Pennsylvania together with a report of the activity taken by the Fish Commission will, as heretofore, be pub-

lished in a subsequent issue of the *ANGLER*.

Ray Armstrong, the retiring President announced the following offices elected by the convention.

President, Steve Emanuel; First Vice President, Ed. F. Brasseur; Second Vice President, Les W. Secoy; Secretary, Charles H. Nehf; Treasurer, Glenn C. Dodds, Jr.; delegate to NWF, Charles W. Stoddard, Jr.; and alternate to NWF, Seth L. Myers.

Paradise and How!

By MEL CURRIE



The regular rhythm of the ticking clock on the night stand ordinarily would have been soothing, but not this night. For the thousandth time I shifted positions. Finally in desperation I socked the pillow and fumbled the face of the clock into a position that would catch the moonlight streaming through the window.

Two-thirty and still no sleep! Why fight it I thought. A stubbed toe later I had a light on and my wife sat up sleepily.

"Time to go?"

"May as well," I said. "I can't sleep."

Ordinarily I'm not an insomniac. By heritage or habit, whatever the case, I'm a sound sleeper. In the face of a long awaited trip to Fishermans Paradise however not even pills could have entertained Morpheus that night.

It was almost three o'clock when we left Grove City, Pennsylvania after a quick breakfast and a tip-toe exit.

Few cars passed us. The blacktop stretched ahead in tire-singing smoothness. A chilled breeze easing through the ventilator quickened the tension that filled us. I fought a right foot heaviness that wanted to press the excelerator beyond the limits of safety and common sense. Darkened towns slipped by one after another, each showing just a little more early morning activity than the last.

Ten thousand twists, turns, weaves and bobs later we entered Bellefonte. The town was just awakening. A filling station operator, getting set up for the day's business, dragged-screached a metal oil rack across a concrete apron. Turning right up the main street the court house glistened like a white jewel in the morning sun. The steepness of the hill caused us to wonder how a car could ever move on it in slippery winter-time.

Hunger was the last thought in mind, but for the sake of survival we had breakfast for the second time. A few minutes and a filled gas tank later I pulled the car out of Bellefonte and down the road to the Paradise.

We thought surely that we'd be first in line on this particular morning, but when we neared the gates I noticed four cars already ahead of me. One of them was from Iowa!

Ahead of us four men were making last minute checks of their gear. There was a lot of confusion, good-natured and playful, as they unsnarled their equipment from the car trunk. Suddenly they became serious and jumped into the car. Now the line extended far behind me. We moved into the parking lot under the direction of an attendant. This is it!

Ten minutes later I had badge 27 pinned onto my shirt. We read the instruction card, and then I busied myself with knocking the barbs off of my favorite flies.

All around us others patiently waited.

The klaxon sounded. Excitement filled the air. Like a well drilled platoon they went into action. A few hundred fly rods arched gracefully. Two hundred fly lines slapped the water in unison. Men everywhere concentrated in earnest.

Nothing breaks down the barriers of age and economic status as quickly as a trout stream. Right from the first moment we noticed a congeniality and friendliness, a touch of brotherhood. It is all the more surprising when it is evidenced by hundreds of anglers standing in some places shoulder to shoulder. Occasionally lines tangled. Sometimes they snagged and stirred up a commotion. Still, tempers ran even and assistance, not anger or disgust, was offered. Without a word and with rapt attention anglers pulled in their lines to give the fellow with a hooked fish a chance to play him in. Sportsmanship was the rule, unspoken and unreminded, but present to the fullest. Frankly, we were amazed.

Anxious as I was to wet a line, we first walked up the trail to examine the limits of the Paradise section of Spring Creek. I had never seen water quite like it. The milky chalk-greenness was new to me. In Illinois we have clear water or muddy water, seldom an in-between, and more of the later. With my hand I touched its coolness. Only a spring felt this cool at home. I made mental notes of the swiftness and the shallow depths and even now in closing my eyes I can picture the stream sliding and dancing its way between the green clad hills. Pennsylvanians have a water heritage so outstandingly wonderful it's sacrilegious to destroy it with wastes and pollution.

Water everywhere deserves all the attention and care it can possibly get. Nothing reveals man's limited sight and unlimited immaturity more pointedly than a despoiled stream. Yet, but for the efforts of a few far-sighted souls there would be no Spring Creeks. We'd have nothing more than a network of open sewers.

Suddenly I sensed action. Out of the corner of my eye I saw a line go taught and then slice the water viciously as though some unseen hand suddenly grabbed it and raced it through the water. My heart thumped as I watched. Neither my wife nor I spoke. Skillfully the angler played him. Slowly, just a little at a time, the fish gave in. He swirled. He jumped. He

tugged. One second he was tail dacing. The next, he was burrowing for the bottom. My hands were sweating for fear that the light leader would break. I thrilled to the fight as though it were mine. I thrilled more when I looked down at a rainbow three-quarters the length of my arm.

"Going to take him," I asked?

"Think I will," said the unknown angler as he unhooked a white miller from the angle of the gamesters mouth.

As he said it a light rain began to fall. Apprehensively I scanned the sky. Dark clouds shut out the sunshine. We started back for the car, but too late. Many wet minutes later we sought refuge through the car door. Tearing open a pack of cigarettes I pictured our trip as ruined.

It rained most of the morning. Towards noon the sky cleared just as quickly as it had clouded up. Two jiffies later I had my line out playing a white mirabou. I crossed my fingers.

Now ideally the day should have ended with my catching a lunker trout. It's not that my wife and I didn't wish for such an ending. Regardless of wishes the fact is that the spirit who watches over fishermen must have decided on a rest for me that day, a rest from catching fish that is. My casting arm certainly didn't feel as though it had had a day of emptiness.

An empty creel is of course one of the hazards of the occupation. I was not alone. Few trout were taken that day. I could chalk up my results to lack of know-how which it could have very well been. On the other hand many skillfull and devoted trout fishermen were no more fortunate than I. Still, there was no bitterness, in fact I've never seen so many happy but catchless anglers.

Fish or not it was a great day. I can't recall when I've spent one with greater excitement. There's more to fishing than the catching of fish. A day afield is never wasted.

As I packed my gear into the car my wife looked and with a touch of caution asked, "coming back next year?"

I didn't have to think twice to answer.

"The Good Lord willing, I am. Everyone who fishes in Paradise wants to go back."

"The Singing Hills"

The Department of Forests and Waters announces the fourth annual State Sponsored OLE BULL MUSIC FESTIVAL will be held in Ole Bull State Park, over looking Kettle Creek, renowned trout stream in Potter County, Pennsylvania on Saturday, October 13th (1956) beginning at 10:00 A. M. Miss Inez Bull, world-famous colorature soprano of Upper Montclair, New Jersey who is the great-grandneice of the Norwegian violin virtuoso, will again direct the festival.

Awards presented by Miss Bull include medals, cups, plaques, ribbons, certificates, scholarships to the American Summer School of the University of Oslo (Nor-

way), Temple University (presented by the Senate thru Senator James Berger, Coudersport), and the successful Ole Bull Music School authorized by Governor George Leader in 1955 to be held in Ole Bull State Park. Occupying six weeks during the summer, the school held its final session with an enrollment of 311 students during the course.

Representatives from the Norwegian Embassy, Department of Forests and Waters and Department of Commerce will appear as guest speakers.

No private auditions will be held and awards must be received personally, none being sent thru the mail. All judging will be final.

PENNSYLVANIA STATE FISH WARDEN CITED

Second Time For Outstanding Services In Field Of Conservation



NORMAN BLUM
Tionesta

In charge of Clarion and Forrest Counties.



Catch More Fish, Please!

In three years Greene County's Zander's Lake of 15 acres has come from nothing to the site of excellent fishing under conservation department management, but Fisheries Manager, C. L. Brynildson, warns that the heavy fishing pressure on the lake must be maintained or even increased if the favorable fish balance is to be maintained.

After the chemical removal of the lake's stunted fish population, the lake was stocked with five pairs of adult largemouth bass and five pairs of adult bluegills in the spring of 1953. In October of the same year, test netting produced 76 largemouths of from four to seven inches and 28 bluegills from three to four inches, a remarkable growth for the young fish.

Fishing pressure was heavy on the lake in 1954. In July of that year, test nets showed 57 largemouths averaging 6.8 inches and 305 bluegills averaging 5.6 inches. In August of 1955, another sampling showed three largemouths of from 8.4 inches to 11.7 inches and 109 bluegills that ran up to nearly eight inches in length. Fishing pressure continued heavy in 1955.

In April of this year, test netting revealed 578 largemouths averaging 9.4 inches and 626 bluegills averaging 5.6 inches.

From now on it is up to the fishermen to see that the lake does not become overcrowded with fish, particularly bluegills. For the present, the lake is considered in good balance.

Apologies to Dolly Gold

In the August, 1956 issue, the PENNSYLVANIA ANGLER erred in reporting the largest brown trout caught by a woman at the Fisherman's Paradise during the 1956 season.

The record reveals that Mrs. Dolly Gold of Watsonstown, R. D. 2, earned this distinction by catching a brown trout on the opening day, May 11, which measured 24½ inches long and weighed in at 7 lbs. Regretting the error, we apologize.

—Editor

Trout Foods

Wisconsin fishery biologists Milton E. Burdick and Edwin L. Cooper make these interesting comments about the possible value of minnows in the diet of trout in THE JOURNAL OF WILDLIFE MANAGEMENT for July:

The importance of minnows in the diet of rainbow trout was investigated because of the prevalent opinion that a forage fish was necessary for continued good growth. In Weber Lake, minnows were very abundant in the stomachs of trout taken in some years and were a minor item in the diet in other years. There were indications also that minnows were taken more frequently by the larger trout. However, the excellent growth exhibited by the trout during 1947 which were feeding to only a limited extent on minnows indicates that minnows are not required for good growth. In 1951, minnows were removed from the lake at the rate of 14 pounds per acre with little apparent effect in reducing the large population of minnows present. This removal of minnows also had at least no detrimental effect on the growth or production of trout since during that year anglers harvested the largest total weight of trout during the six-year period. Trout of all sizes in Weber Lake utilized plankton crustaceans and small invertebrates readily as food. Plankton crustacea were also found to be the dominant food items eaten by rainbow trout in several bog lakes during the major part of the period at which trout were growing the fastest. . . .

For this reason it seems probable that minnows are more detrimental to the survival of trout through competition for food than they are beneficial in furnishing forage for the larger trout.

The over-all value of minnows in lakes as forage for the Kamloops trout has also been seriously questioned . . . because of the direct competition for food between the minnows and small trout.

Notes from THE Streams

Why Not Grab the Anchor?

Two motor boats upset recently on Sandy Lake. They were towed into shallow water and turned up-right, whereupon the life preservers and seat cushions toppled out.

Something should be done to impress upon the public that you should wear the life jacket, not sit on it.

—Warden Richard Abplanalp,
Mercer and Lawrence Counties

"Sell-Out"—By Suggestion

While patrolling the Allegheny River this past month, I was asked many times, "What are the pike taking?" Having seen few caught, I suggested two or three different lures. To my surprise, when I attempted to buy some of these lures later, the dealers were sold out.

—Warden Kenneth G. Corey,
Warren County

For Want of a Frog, the Snake was Lost, For Want of a Snake, the Turtle was Lost

While doing stream improvement on Little Conneauttee Creek, I noticed a water snake going downstream with a small frog in its mouth. When the snake came to a hole in the stream, a big snapping turtle lying on the bottom, grabbed the snake. The snake released the frog, which swam to shore, but the turtle and the snake disappeared under a log jam. The next day I caught the turtle, 29 pounds.

—Warden Bert Euliano,
Erie County

Juniata Likes Lake Erie Bass

The program of transferring bass from Lake Erie dispatched a consignment to the Juniata River. The stocking has certainly created much interest in fishing this river, with the return being exceptionally good. The downstream movement of these fish is amazing. I am



confident that much favorable information will be gained, which in turn would result in better fishing.

—Harold Corbin,
South Central Regional Supervisor

Snapper in a Soup

Three teenage boys fishing with bow and arrow for carp recently on the Juniata River, observed a large snapping turtle. The boys tried their skill on the snapper, and after a short while one of them placed an arrow into the back of the turtle. The arrow pierced the top and bottom shell and pinned the turtle to the bottom of the stream. The sharp edge of the back cut the line and Mr. Snapper took off with the arrow. After a short boat race, the snapper was retrieved. Result, one snapper, no carp.

—Warden C. V. Long,
Juniata and Perry Counties

A Vote of Thanks is in Order

Recently a request from one of our hatchery superintendents to obtain some sucker rod was received. I approached several oil producing plants in my district. These rods are used as poles to set nets, and are very useful in that they are preserved by being saturated with oil. The oil companies responded immediately and supplied me with sufficient numbers to fill the superintendent's order. I think this deserves a vote of thanks.

—Warden Harold L. Solomon,
Venango and East Crawford Counties

* * *

The boulevard of broken dreams is paved with the rubbish of sloppy people. Don't throw rubbish outdoors. Use trash receptacle. A cleaner outdoors is up to you!

Conservation

Across the Nation

Conservation and the 84th Congress:

Some of the laws enacted by the 84th Congress which effect the conservation estate were passed in the first session or well in advance of the closing hours and their implications are better known than those which are more recent. Without a summary, however, it is difficult to appraise the conservation losses or gains during any two-year period of Congress.

For this reason the PENNSYLVANIA ANGLER presents an issue of *The National Wildlife Institute's* "Bulletin" to a summary of the outstanding issues that it believes would be of interest to all persons concerned with natural resources management on the national level.

Fish and Game

One of the most significant developments was the enactment of the Bonner-Magnuson bill (Public Law 1024) which reorganizes the U. S. Fish and Wildlife Service within the Department of the Interior along the lines suggested by nearly all of the nation's major conservation organizations and sportsmen groups. This new law gives greater recognition and increased importance to the Federal program for commercial fisheries as well as for sport fishing and wildlife.

A newly created office of Assistant Secretary of the Interior for Fisheries and Wildlife, and two parallel bureaus in the U. S. Fish and Wildlife Service, one for commercial fisheries and the other for sport fisheries and wildlife, under the supervision of a Commissioner, assure the continuance of urgently needed administrative direction and coordination for the proper management of these resources.

The House Merchant Marine and Fisheries Committee's investigation of the policy of the Interior Department concerning oil and gas leasing on units of the national wildlife refuge system constituted a valuable public service. As a result of its broad inquiry, the Committee issued a unanimous report censuring the Interior Department for a confused, conflicting, and contradictory leasing policy on wildlife refuges.

The Department of the Interior now submits all oil and gas lease applications and proposed refuge land transfers to the Committee for its prior consideration. While this arrangement may end for the present time the threat that misuse of the dedicated wildlife refuge lands would go undetected, it is only temporary at best and a definite program must be drafted and carried out for refuge acquisition, maintenance, operation and protection.

For the second year, conservationists successfully de-

fended the famed Wichita Mountains National Wildlife Refuge in Oklahoma against the Army's attempt to get exclusive control of a 10,700-acre tract for expansion of its artillery and guided missile range at nearby Fort Sill. A House committee hearing was not reconvened on the bill which sought to force the transfer of the refuge land to the Army once the committee members became aware of the vigorous opposition to the proposal in Congress and throughout the nation.

The Fort Sill-Wichita Mountains National Wildlife Refuge issue is not settled. With the Army maintaining an uncompromising position for absolute control over the valuable refuge tract, there is a strong likelihood that further attempts, legislative or otherwise, will be made to accomplish the transfer.

A major conservation accomplishment during the first session was the appropriation of the backlog \$13½ million in the Federal Aid to Wildlife Restoration Fund for allocation to the States in five equal annual payments. These funds accumulated during the early years of that successful federal aid program when the Congress failed to appropriate annually the full amount accruing from the excise tax paid by shooters on sporting arms and ammunition. The first allocation from the backlog made an additional \$2½ million available this year to the States for wildlife management, research, and habitat development programs.

A serious conservation loss was nullified by President Eisenhower's veto of the \$1.6 billion rivers and harbors authorization bill. Included in this bill was the controversial Bruce Eddy dam on the wildlife-wealthy North Fork of Idaho's Clearwater River which had been tacked on by the Senate Public Works Committee after the authorization bill had passed the House.

Many members of the House and Senate objected to the authorization of Bruce Eddy dam by this legislative stratagem. Such action, it was pointed out, circumvented full public hearings and completely ignored the fact that only last year Congress had appropriated funds to launch an investigation of the effect that this proposed dam would have on the fish, wildlife and recreational resources of the Clearwater drainage. The field study is not complete and until a final report is submitted, Congress will not have all the necessary facts upon which to base its decision.

The omnibus rivers and harbors bill was vetoed by the President because it would have authorized 32 projects—costing more than \$630 million—that had not been reviewed as required by law.

Realization that authorization would be sought for Bruce Eddy dam led conservationists to support a high dam at the Hells Canyon site where no substantial fish, game, or recreational values would be destroyed. Without taking sides on the private versus public power aspects of the Hells Canyon issue, conservationists emphasized that construction of the less efficient water-retention dams on the Snake River would be followed by requests for other structures in the Clearwater and ultimately the Salmon River drainages to compensate for the loss of storage. That conservationists were right, is illustrated succinctly by the fact that Bruce Eddy dam was authorized only a few days after the high Hells Canyon dam was voted down in the Senate.

Ratification of the Great Lakes Treaty and passage of an implementing act have made possible at last a coordinated international approach for the control of lamprey eel populations in the Great Lakes and for research programs leading to the rehabilitation of declining fishery resources in those waters.

National hopes were raised when the House passed a bill authorizing the establishment of a 1,000-acre Key Deer National Wildlife Refuge to protect the remnant population of North America's smallest deer. Hopes were raised further when the bill was reported out of committee at the last minute in the Senate and placed on the consent calendar. There it died, enmeshed in the indecision of late-hour maneuvering and opposed by only a few landowners on the Florida Keys.

Hunting, fishing, and trapping on military reservations received a thorough investigation by the House Committees on Interior and Insular Affairs and Merchant Marine and Fisheries. Both Committees agreed that legislation was necessary to curb abuses of wildlife resources by military personnel. During the closing hours the House passed the Engle bill which, in addition to acreage restrictions on the public lands that could be withdrawn for defense purposes without approval of Congress, would have prohibited hunting, fishing, and trapping on all military posts contrary to the regulations and licensing provisions of the appropriate State or Territory. The lack of time prevented consideration of the Engle bill on the Senate and a concerted effort will be made to win early approval of this proposal in the 85th Congress.

The U. S. Fish and Wildlife Service was authorized to obtain grain unfit for human consumption from the Commodity Credit Corporation for use in luring waterfowl away from areas where they may be damaging crops. The Service has been carrying out such a program for several years and at best, grain procured from the CCC will be less costly than that now used.

Introduced in the House too late for action this year was a bill seeking appropriations to finance a long-overdue study into the effect of herbicides and insecticides on wildlife and fish. Such basic information is needed desperately in view of the extensive aerial forest spraying and unprecedented use of toxic materials in agricultural operations.

Forests and Forestry

A great forward stride was made with the enactment of a law to clear up the national forests mining claims situation. The new law provides a means for untangling the multitude of claims that hampered the administration and proper use of national forests, defines the surface rights of unpatented claims, and removes from the general mining laws some common materials such as sand and gravel which heretofore have been the basis for much spurious claim activity.

The way was cleared for the acquisition of private holdings in the Superior National Forest Roadless Area by appropriation of \$2 million. Meanwhile, outside of Congress, public multiple-use values in the national forests were upheld by the Secretary of Agriculture who sustained earlier decisions of the Chief of the Forest Service denying requests of two applicants for special considerations in the Crazy Mountains section

of the Gallatin National Forest in Montana and the Cumberland National Forest in Kentucky.

No action was taken on a bill calling for the establishment of a wilderness system within the Department of Agriculture and the appointment of a wilderness commission to assist in the administration of these areas. The objectives of this bill were supported widely and it undoubtedly will be introduced in a modified form next year.

Conservationists were disappointed by the failure of Congress to act on several bills that were introduced for the purpose of providing a means of financing the development and maintenance of recreational facilities on the national forests. Although Congress actually appropriated more money for this work, the allocation falls short of the amount needed to provide and maintain minimum facilities and services for the persons who make more than 40 million recreational visits to the national forests each year. This objective has wide national support and similar bills undoubtedly will be introduced early in the next Congress.

Parks and Monuments

One of the most effective and progressive steps in the history of the national parks system was the formulation and introduction of the 10-year "Mission 66" program calling for the accelerated development of accommodations at the national parks to serve the burgeoning number of visitors. The idea caught on immediately, and Congress gave the National Park Service \$2 million more than it had requested for the first year's work scheduled under this program.

Another important accomplishment was the deletion of the Echo Park dam in Dinosaur National Monument from the Upper Colorado River Storage Project. This was done when the Administration and other proponents of that ambitious river development realized that public opposition would kill the entire project plan if the Echo Park dam was retained. Bills subsequently were introduced to elevate Dinosaur National Monument to national park status, but these measures were not given enough support and an excellent opportunity was lost to achieve this desirable objective.

The Interior Department appalled conservationists when it permitted the Navy to set up an installation in the heretofore inviolate Cape Hatteras National Seashore Recreational Area in North Carolina. The inadvisability of this action is made more striking by a recent report from the National Park Service which disclosed that only 240 miles of the 3,700 miles of general coastline from Maine to Texas are now in Federal or State ownership for public recreational use. The Interior Department has failed to explain why the navy was given exclusive use of that part of the National Recreational Seashore Area.

Land and Water

Passage of the Blatnik Water Pollution Control Act has given the federal government the strongest and most workable water pollution control program in its history. This act enhances opportunities for Federal-State corporation in programs of research, enforcement, and pollution abatement. A prime feature is the grants-in-aid section to communities for the construction of

sewage abatement and treatment facilities. Congress appropriated \$50 million for the initial year's activities under this section.

The Army Corps of Engineers' new land policy was brought to public attention by the introduction and passage of a bill to retain in public ownership lands licensed by the Corps under an operating agreement with the Florida Game and Fresh Water Fish Commission at the Jim Woodruff Reservoir for public purposes of recreation and fish and game management.

Under its new land policy the Corps is planning to reconvey to the former owners land acquired originally at reservoir sites for "public purposes" and which the Army now contends is not required either for permanent or temporary water storage. This policy, the Corps reveals, will not permit the retention of lands previously licensed to State wildlife agencies for public recreation and fish and game purposes, or the acquisition of peripheral lands at future reservoir developments.

As soon as the seriousness of this move became apparent, conservation-minded Congressmen blocked action on the several bills that sought reconveyance authority at other reservoirs. The new Corps of Engineers land policy undoubtedly will receive serious consideration in the 85th Congress.

Amendment of the watershed protection and flood prevention Act of 1954 opened the way for accelerating this desirable and urgently needed program of land and water treatment in upstream areas. Congress broadened the program to include improvements for municipal water supply, stream flow regulation and other purposes in addition to flood prevention, irrigation and drainage. The Federal government now will pay the entire cost of improvements for flood prevention and local agencies will pay for features involving municipal water supply and other non-agricultural uses such as recreation. Conservationists will be watchful, however, to see that this authority will not be used to stimulate the drainage of wetlands wildlife habitat.

The Soil Bank bill contained some principles of land and water use which have long been advocated by conservationists as being in the public interest. The plan, based on the idea of reducing farm surpluses, would pay farmers to take crop-lands out of production, and spells out specific objectives for using these lands for soil, water, forest, and wildlife conservation.

A similar bill, applicable to the Great Plains area, authorizes payments to farmers and ranchers under 10-year contracts for the installation of soil and water conservation practices. It is expected that this program will do much to stabilize about 10 million acres of land in Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, South Dakota, Oklahoma, Texas, and Wyoming.

Lamprey Control

The Great Lakes Fisheries Commission, international board set up to direct sea lamprey control, will hold its first annual meeting at Ann Arbor Michigan late in November.

The six-member Commission recently announced it will receive approximately \$1,000,000 to begin its work.

More than \$600,000 will be supplied by the U. S. government and about \$300,000 will come from the Canadian government. The Commission said these amounts represent the approximate ratio of water controlled by the two governments.

The Commission will make use of the research agencies of the two nations in granting funds for research, according to James W. Moffett, who serves as temporary executive-secretary of the Commission.

"We will continue with the electrical barrier defense against the sea lamprey," Moffett said, "and will continue working on the 'selective poisons' that are still in the laboratory state."

At present, 97 electrical weirs are in operation on Lakes Superior, Michigan and Huron. Construction of weirs is planned so that barriers will block lampreys from all spawning rivers on the Great Lakes by the end of 1960. Poisons are being developed to kill young lampreys in upriver mud and gravel banks without harming game fish.

Fishermen and Hunters Spent

\$3 Billion in 1955

The first nationwide, scientific survey of fishing and hunting disclosed that twenty-five million sportsmen and sportswomen spent nearly \$3 billion for 500 million days of sport, and drove their automobiles 10.4 billion miles in pursuit of this recreation during 1955. The results of a study made public September 14 at the annual meeting of the International Association of Game, Fish and Conservation Commissioners in Toronto.

The survey was conducted under the direction of the U. S. Fish and Wildlife Service largely as the result of a request by the International Association. The Association, representing the fish and game departments of the various states, recommended in 1954 that such a study be made and that it be financed by the Service from its administrative share of Federal-Aid wildlife and fisheries funds.

The survey was carried out under contract during January and February of 1956 and covered activities of calendar year 1955. Some 300 interviewers contacted 20,000 homes in more than 250 places, from the largest cities to rural areas, in order to obtain a representative cross-section of fishing and hunting habits in the United States. The interviewers questioned 6,220 individuals who fished in 1955 and 3,108 who hunted. The figures apply only to persons 12 years of age and older.

The Fishing Record

The report shows that 20,813,000 individuals fished in the United States during 1955. Of this number, 13,737,000 required licenses, and 7,076,000 did not require licenses. There were 18,420,000 fresh-water fishermen and 4,557,000 salt-water anglers. Among the fishermen were 12,938,000 men (18 and older), 4,689,000 women (18 and older), and 3,186,000 minors.

Total expenditures for fresh-water and salt-water fishing combined amounted to \$1,914,292,000, or an average of \$91.98 per person. Total expenditures for fresh-water fishing amounted to \$1,425,353,000, or \$77.38 per person; total expenditures for salt-water fishing amounted to \$488,939,000, or \$107.29 per person. A

breakdown of expenditures for fresh-water and salt-water fishing combined follows:

Equipment:

Specific (tackle, baits, etc.)	\$243,626,000
General (special clothing, tents, boats etc.)	550,037,000
Total equipment	793,663,000

Trip:

Food	106,101,000
Lodging	73,080,000
Automobile transportation	271,827,000
Other expenses (refreshments, guide fees, charters, etc.)	596,700,000
Total trip	1,047,708,000
License fees	37,240,000
Leases and privileges	836,000
Club dues, magazines, etc.	34,845,000

Fishermen and Hunters

Of the 118,366,000 persons aged 12 or over in the United States in 1955, the survey found 24,917,000 fished or hunted, or did both. There were 13,133,000 who fished only; 4,104,000 who hunted only, and 7,680,000 who did both.

Total expenditures for fishing and hunting combined amounted to \$2,850,979,000. This was an average of \$114.42 for every sportsman.

The statistics show that 21.2 per cent of the population either fished or hunted or did both; 17.6 per cent fished; 10 per cent hunted. In the big cities, 10 per cent were fishermen and 2 per cent were hunters; in suburbs, 16 per cent were fishermen and 6 per cent hunters; in towns, 21 per cent were fishermen and 12 per cent were hunters; in rural areas, 21 per cent were fishermen and 16 per cent were hunters.

In rural areas, every other household had at least one fisherman or hunter. A breakdown by population densities shows that 17 per cent of the population of large cities, 29 per cent of the population of suburbs, 39 per cent in towns, and 48 per cent in the rural areas, fish and/or hunt.

Small Share for Conservation

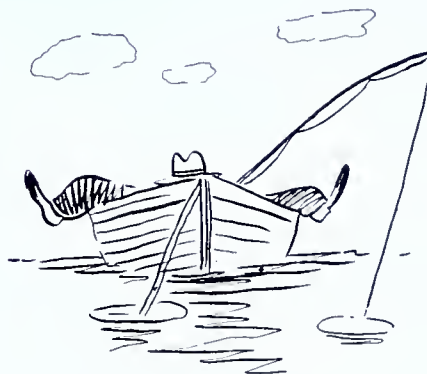
It is interesting to note that of all the money spent by fishermen for their sport, less than 2 per cent goes for license fees, the major source of income for conservation and fish management. Of all the money spent for hunting, less than 5 per cent goes for licenses and duck stamps.

The survey report, as released by the Department of Interior, concluded with this comment:

"What group or segment of people benefit from this enormous yearly expenditure? *All* the people benefit in some way. Among those who benefit more or less directly are people engaged in the manufacture of fire-arms, fishing tackle, automobiles, trailers, and automotive equipment, tents, sports-clothes, boots, shoes, and optical equipment; owners and employees of hotels, motels, restaurants, gas stations, grocery stores, hardware stores and sporting goods stores; guides, ranchers, and many others engaged in various other occupations and enterprises. Farmers often benefit by sale of produce to population-swollen small towns upon the advent of the hunting or fishing season.

"The number of participants, the amount of money expended, and the sustained interest from youth to old

age, all emphasize that hunting and fishing continue to be the most popular American sports. Apart from benefits to the national health and well-being, it is evident that conservation actions are warranted purely on the grounds of national income, as well as for their recreational values to approximately 20 million adults and 5 million minors who fish and hunt."



Boating Can Be Made Safe

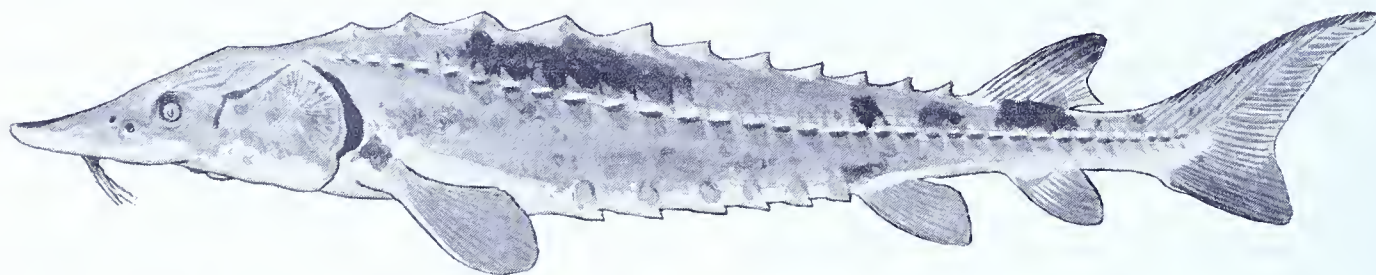
A congressional committee was told in Chicago recently that "boating can be kept one of the safest of all sports" by making minor adjustments in present federal regulations, securing uniformity of state laws, expanding waterfront facilities, broadening boating safety education programs and continuing technical improvements in boats, motors and boating equipment.

The recommendations were contained in a statement prepared for presentation by Guy W. Hughes, executive director of the Outboard Boating Club of America, to the U. S. House of Representatives Committee on Merchant Marine and Fisheries.

Laying heavy emphasis upon the desirability for uniformity of state laws, Hughes cited the great mobility of the trailer-borne pleasure boating fleet and commented. "We should do everything possible to encourage uniform federal and state rules and regulations . . . we should agree upon one set of regulations and utilize every effort to teach these uniform rules to every boater."

A parallel was drawn between the motorists' use of highways and the boaters' use of the waterways in that each group requires safe and protected areas of operation. Hughes underscored the need of the nation's boaters for increased facilities, harbor-of-refuge, mooring facilities, life-saving installations and navigational aids, these to be incorporated under a broad federal policy to be financed through "the diversion in gross of federal gas tax monies on marine fuel to the states, and there to be augmented by matching funds."

* * *



LAKE STURGEON (*Acipenser fulvescens*)

Of special interest because it is one of the primitive fishes, the sturgeon is rarely taken by anglers but when available is now a valued commercial species. The flesh is esteemed, fresh or smoked; the eggs are made into caviar.

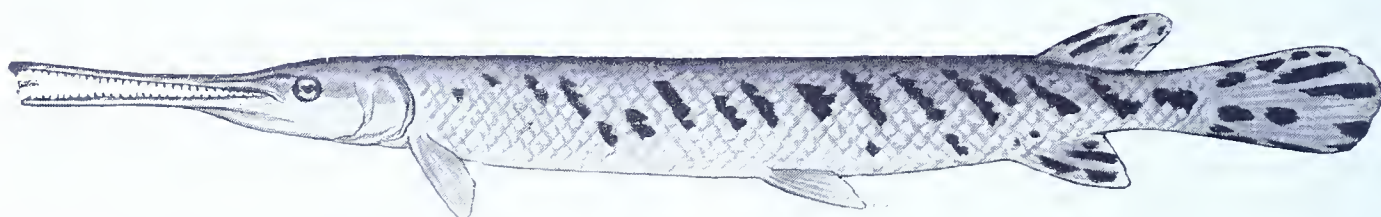
RANGE: Largely a fish of the Great Lakes and the midwest, the sturgeon is found only in Lake Erie in the state of Pennsylvania. The larger Atlantic Sturgeon is occasionally seen in the Lower Delaware and Susquehanna. The shortnose sturgeon is also found in the Lower Delaware and the Shovelnose Sturgeon in the Ohio River.

CHARACTERISTICS: A tan or buff-colored body often blotched with dark areas, a long, conical fleshy snout with a tuft or finger-like barbels in front of the sucker-like protractile mouth and heavy bony plates along the back and sides, distinguish this interesting fish. It may exceed seven feet in length and three-hundred pounds in weight.

HABITS: The sturgeon is a fish of big waters. Living primarily in lakes and large rivers its spawns in the lower ends of tributary streams or in the lake shallows.

FOOD: A bottom feeder the sturgeon lives on worms, snails insects, crustaceans and other animals in the soft bottom over which it feeds.

LURES: Sturgeon are only very rarely taken by anglers fishing on the bottom with worms or small minnows. Commercial fishermen in Lake Erie take sturgeon in trap and pound nets.



LONGNOSE GAR (*Lepisosteus osseus*)

Rarely caught by anglers this so-called "living fossil" among fishes is of little direct importance to fishermen. The flesh of the gar is edible but the eggs are said to be poisonous to humans and livestock.

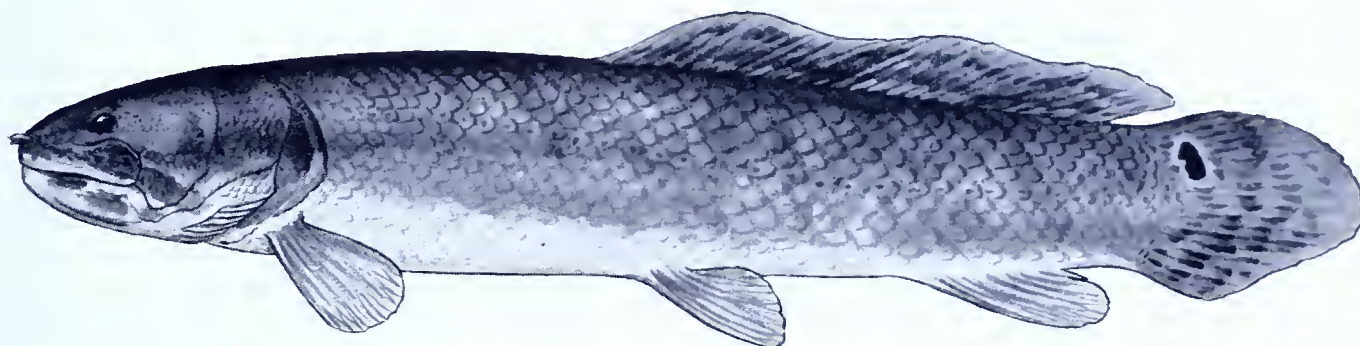
RANGE: Rather widely distributed over eastern North America but not abundant in Pennsylvania. The Shortnose Gar, similar except for the head, is found only in northwestern Pennsylvania.

CHARACTERISTICS: The long, rather slender and cylindrical body with the bill-like mouth and heavy "enamelled" scales serve to distinguish this primitive fish. The color is olive to dark green above and white or silvery below with black blotches or spots on the body and fins. A length of four to five feet is attained.

HABITS: Inhabits weedy lakes and slow-moving streams. Spawns in shallow weedy bays in early summer. Often observed "sunning themselves" in schools near the surface.

FOOD: Chiefly small fishes but some insects and crustaceans.

LURES: Rarely taken on conventional lures because of bill-like mouth. Snares and spears are most effective but are not legal to use in Pennsylvania waters.



BOWFIN (*Amia calva*)

The fourth representative in fresh water of the primitive fishes, this stout fighter is caught quite frequently by anglers especially if fishing with dead minnows close to the bottom. The flesh is not highly esteemed but some claim it is unusually tasty when smoked.

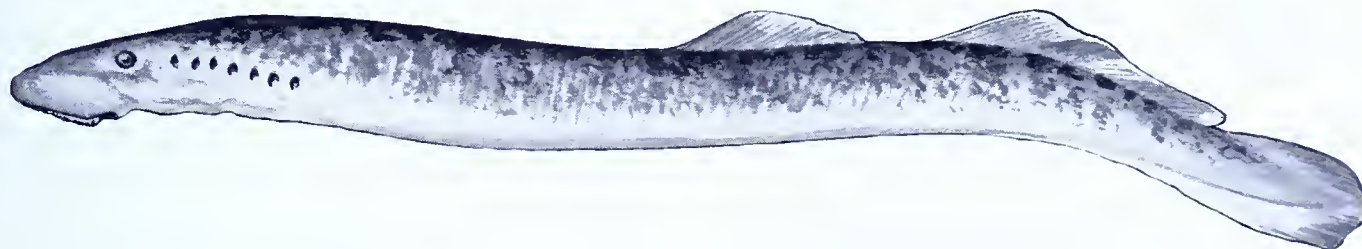
RANGE: In Lake Erie and rather uncommon elsewhere west of the Appalachian, reported from the lower Susquehanna.

CHARACTERISTICS: Dark olive above with lighter sides and cream-colored belly. The dorsal fin is very long and a dark green in color but edged with orange in breeding males which also have a dark spot near the base of the tail. The head and body are heavy and thick and the scales are large and deeply imbedded. A weight of six to eight pounds is not uncommon.

HABITS: The bowfin spawns in the spring in shallow, sheltered areas and the male guards the young until they are several inches in length herding them about in dense black schools.

FOOD: Small fishes, crayfishes, insects and other bottom dwelling forms.

LURES: Minnows or worms fished on the bottom or deep-running plugs are preferred.



SEA LAMPREY (*Petromyzon marinus*)

A primitive ancestor of the true bony fishes, the lamprey is of chief interest because of its parasitic habits at one stage in the life history and because the young are of great importance as bait in the Delaware River.

RANGE: Native to the Delaware and Susquehanna River systems, they invaded the Great Lakes above Niagara Falls presumably through the Welland Canal and are now fairly common, occasionally observed in the Lake Erie water of Pennsylvania.

CHARACTERISTICS: Adult sea lampreys may reach a length of thirty inches. They are mottled brown or yellow in color, the male with a thickened, ropy ridge along the back in spawning season. The cylindrical, eel-like body with the double dorsal fin, the sucking mouth and the seven gill openings on each side behind the eye distinguish the lamprey from the true sea eel. The young are gray or olive in color and reach a length of about eight inches before transforming.

HABITS: Parasitic on fishes as adults in the sea and in Lake Erie, they spawn in tributary streams in late May and early June; constructing large, saucer-like depressions in gravel riffles where the eggs are buried after hatching, the young drift downstream to muddy flats along the stream margin where they live a blind, non-parasitic existence in burrows for four or five years. At this stage they are much sought for by Delaware River fishermen as bait for bass and walleyes. On transformation to parasitic adults, the eyes appear and a strong, sucking mouth armed with horny teeth develop. Then they drop rapidly downstream to the sea or to Lake Erie where they prey on various fishes for a year or two, then returning to the stream to spawn once only and die. The smaller silver lamprey is similar in habits and life history but is found only in Lake Erie. Other smaller representatives of the lamprey family, some non-parasitic are also found in the streams of the northeast.

FOOD: Plant and animal ooze as young; the blood and other tissues of prey fishes as parasitic adults.

LURES: Adult lampreys rarely sought or used as food but the larva are shoveled out of the mud banks as bait in the Delaware River.

Get into the Thick of it

By CHARLES K. FOX



BACK



BELLY

Written by a former ANGLER editor in commemoration of the 25th anniversary of THE PENNSYLVANIA ANGLER, the publication which introduced and championed the sport of light-lure casting with refined tackle. The 1935 slogan was, "Use a plug and save a chub."

Every angler is cognizant of the fact that members of the great family of game fish seek overhead cover. Furthermore, there is competition among them for such spots, and wherever competition occurs among fish, the best specimens prevail then take over. One reason they seek such places is to get into the shade and away from the direct rays of a bright sun—actually it is brightness rather than heat which causes such movements. Another is to seek protection against possible enemies and interference in general. Still another reason is to lie in concealment while waiting for passing forage. In short, they just don't like to be discovered.

This condition of the larger fish in the tougher spots places a premium on log-jams, brush piles, patches of pads floating weed, fallen trees, stumps, undercut rocks, overhanging banks, in fact any and all obstructions—and many such obstructions are above the surface of the water.

The average lure, being a veritable mouthful of hooks, can be fished near such choice cover but not through or over it. A bad cast means either a job of disentanglement, which temporarily ruins the spot, or a lost lure. Certainly there is personal satisfaction in making perfect delivery adjacent to the hazard, culminating in the strike from a good fish—and this is as close as most of the fellows care to come.

There is another approach which has greater potential and is more interesting particularly in hard-fished waters where strikes count the most, and it can be practiced by the man with the plugging outfit or spinning equipment.

Choose a single hook lure with the hook point up and cast it right into the cover. Upon delivery, the first thing to do is to permit the lure to settle in the mess without jerking it so there is no initial wrap-around. Then slowly and judiciously work it through—right over brush, logs, stumps, pads, rocks, or any kind of overhead cover. Make it walk, climb and crawl toward the open water. When a fish strikes, it may be necessary to do something of a railroading job, but if one immediately gets the fish coming and keeps it coming without permitting the head to go down, it can be gotten into open water. A high rod accompanied by fast reeling have them on their way out before they begin to collect their thoughts—and all this with light tackle.

The lure can be a surface lure, a single hook underwater, spoon or pork-rind rig. The first may be the best bet because it can be fished slowly on the top. A light line from a high rod is capable of holding up the head, but once that head goes down and the fish gains a little depth, a power run will ensue which means finis no matter whether the tackle is heavy or light.

Some years ago the late Robert Page Lincoln gave me the account in detail of his greatest day bass fishing in northern waters. He was accompanied by his old cronic, Hank Werner, and the site was a Minnesota lake still very high from pre-season rains. The bass had deserted open water to feed among bushes and partly submerged brush piles, which in normal years would have been high and dry. Every hazard harbored big fish which were willing takers. The two employed Hawaiian Wigglers equipped with stiff weed-guards and they made a catch of bass as big as a lie, and they made it back in a bay littered with driftwood when the fellows fishing the open water could not locate any bass.

Sometimes hazard fishing is very limited in that only one place or a small area is involved, other sites constitute a succession of opportunities. A few casts into the past will illustrate the point.

A tree which over the years had been choked to death by a relentless and all encompassing grapevine finally tumbled across a wonderful ledge pocket in the Conodoguinet. For one complete season the mass

of litter held its position and formed a partly submerged brush pile well secured by the stout arm about which the entanglement had formed. Water ran through it and under it. To anyone not acquainted with hazard fishing, it was a hopeless mess, something to cast close to but not into. On the other hand, here was the supreme challenge to invade the sanctuary of the best bass of that section of the stream.

Up until the actual time I first saw this obstruction and toyed with the idea of casting into it, lily pads and grassy banks had been considered major obstacles and had constituted the extent of my hazard fishing. As I surveyed the mess with a skeptical eye, but at the same time recalled Lincoln's story, the thought ran through my mind, "if Bob were here, he might be fascinated by possibilities, therefore the least I should do is give it a try and see what happens."

The lure landed in the middle of the twisting and entwining arms. It looped over the highest limb and swung to a stop without wrapping around or hooking into anything. Slowly and cautiously it was eased up to the vine, teetered on the top, then dropped on my side. The line looped over another section of vine; the lure climbed to the top and hopped across the next gap. It traveled over four or five such spots as though it had eyes and legs. Operations were similar to those of a big spider. My confidence in this game was given considerable impetus.

No doubt you have noticed out hunting and fishing that when you think you have caught out of the corner of the eye some sort of movement or flash, it later develops that you had not been deceived by your eyes. Was that a slight heave of the surface-water right in the debris? I wasn't sure. The lure made its little jump from the last protruding arm to the very edge of the open water. A big form shot forward and intercepted the lure so quickly and solidly that it was a startling performance. No doubt about it, that bass had been watching the life-like creature overhead and when offered the opportunity to seize it, reaction was spontaneous. While this fish was attracted and being caught with his knowledge down, personal satisfaction replaced skepticism in a wiser angler.

During the rest of the season the area was fished repeatedly, and always the entanglement was the point of greatest interest. History repeated and the place gave up its fair share of fine smallmouth bass. Not always did things work perfectly, for there were instances when it was necessary to wade over to recover a lure; but win or lose, it was fun—a premier challenge.

There developed the problem of a perfect lure for hazard fishing. Bob Bates and I set out to make an improved *piece de resistance*. It is simply a little chunk of red cedar with a single hook, strip of rubber or bucktail and a screw-eye attached. After a little experimentation we developed a design which would right itself when it landed upside down and when a little lead was inserted in the belly-part, it always landed right side up. This is the $\frac{1}{4}$ oz. lure which we put into action when a promising hazard is encountered, Bob with his spinning outfit and I with my plugging gear. Originally we called it "The Pad-Jumper," but it is at home among exposed roots, brush piles, floating bog, et al, obstructions. Specifications are included in the accompanying sketches.

On one occasion two of us were fishing a stump-strewn bay which was also studded with broken limbs. The bigmouth bass of this artificial pond utilized this bay more than all the open water put together. To pep things up even more, a cool flow from a feeder stream fanned out over a shallow delta to chill the water of the bay a few degrees below that of the pond proper. The stumps made for interesting target fishing, particularly the shaded sides, but the broken limbs and the brush offered the best cover and were the major considerations. It was tough enough that most of the fellows kept away from it, in spite of the fact that here was a hazard fisherman's paradise.

The bottom was a little too soft and the depth a little too great for satisfactory wading, but it was delightful to glide around in there in a canoe. The silent craft was propelled with a relatively short pole which was connected to the boat by a five foot length of rope. When rammed into the mud, the pole made a useful temporary anchor.

Time and again casts were made right into dead limbs or beyond stumps, and the little surface lure was retrieved slowly, come what may. Now and then a wake would leave one of the littered spots and bear down on the lure. Sometimes the attractor was brought out of water to the top of a stump and permitted to roll or jump to the surface on the near side where on occasion it was greeted with enthusiasm.

Some fish were hooked in the shallow water of the delta and quickly horsed over dead limbs and not given their heads until they found themselves in the open. It was the kind of fishing which holds one's attention due mainly to variation of circumstances.

When extensive but gentle rains raise the Susquehanna River but do not cloud it, I go to a place where scrub willows are partially inundated. The boat is anchored in the channel and casts are directed through the low willow limbs toward brush piles and log-jams. It seems the smallmouths are always in there when this situation prevails. There have been occasions when this condition has produced some of the best fishing of the year and at a time when general fishing in the river is at a low ebb.

During extended drought periods of late summer, floating algae lodges on outcropping ledges of the receding Conodoguinet Creek, thus forming canopies over clean ledge pockets. When this condition exists, the bigger smallmouths forsake open water and congregate in such spots. It is possible to induce some to come out for a lure cast into the adjacent open water, but it is a more interesting proposition to drop a lure on these flat mats and walk it into the open area. Evidence indicates that the fish know of the overhead smack of the lure as well as its progress over the mossy umbrella, although they are unable to see it. The little blob of wood—The Pad Jumper—with the upturned single hook rarely fouls in the green masses. When this does occur, a sharp jerk will usually get it far out of there so that after being retrieved it can be cleaned and recast to the same spot. To work from one floating green island to another, covering by wading a number in the course of an hour, is a most interesting type of angling.

Late each season it is my custom to make a bid for a big pickerel in the upper reaches of a Juniata County creek, and on occasion it has been in the

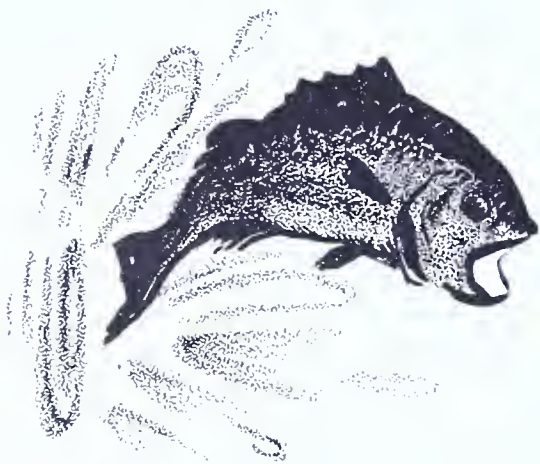
company of genial Alex Sweigart, the first editor of the ANGLER. The stream is capable of producing fish weighing four pounds or even more, and we think highly of a four-pound stream pickerel. Some casts are directed to isolated open pockets among the weeds, some to spatterdock edges of eddies and some to brush piles and log-jams along the shoreline. It is sort of a game of catch-as-catch-can which takes some doings including periodic "hossings".

When a hazard presents itself, boldly deliver a logical lure into it, then with timidity work the lure into a strikeable position. The reward in *fait accompli* is the greatest possible personal satisfaction, and the game is the most highly specialized of them all. Once an angler samples such fishing, he will henceforth exploit it for all that it is worth. Rest assured, he will go around with a chip in his kit looking forward to getting into the thick of it.

Farm Ponds

The Agricultural Extension Service, Ohio State University, Columbus, still has available for distribution its Bulletin 336, entitled FARM POND MANAGEMENT. It was written by R. K. Davis, wildlife conservationist in the Extension Service, in collaboration with fisheries biologists of the Ohio Division of Wildlife and the U. S. Fish and Wildlife Service. It includes a handy "Farm Pond Problem Chart" and tips on fishing the pond. Two important harvesting recommendations are these:

1. Catch 12 bluegills for each bass caught; never throw back a bluegill.
2. Strive for at least 500 man-hours of fishing per acre annually.



Water Pollution Control Program Needs Greater Financial Support

Although there rightfully was much elation over the passage by Congress of the Blatnik bill which gives the Federal government the means for conducting the most effective water pollution control program in its history, inadequate financing threatens the achievement of the accomplishments possible under the new law, according to the Wildlife Management Institute.

Congress did appropriate \$50 million—the maximum amount authorized—for carrying out the grants-in-aid section for the construction of new sewage treatment

plants by communities during the next year, but it failed to provide anywhere near the funds sought for other phases of the program. During the hearings on the water pollution control bill in the Senate, former Secretary of Health, Education and Welfare Oveta Culp Hobby testified that the Public Health Service would need \$6 million initially to contract for and conduct research, provide technical services and advice, and for grants other than for construction of sewage treatment plants.

The final bill as approved assigned additional functions to the Public Health Service, and slightly more than \$6 million was requested for these purposes. But Congress appropriated only \$3 million, and the Service will have to gear its activities to the lesser amount.

Although it does have experienced and well-trained personnel, the Service cannot do a good job in implementing the new water pollution control act without the support of Congress.

It is not clear whether Congress intended the initial appropriation to cover a full year's activity under the new law, or whether it sought merely to get the program under way. If the appropriated funds were for this latter purpose, then the Public Health Service should return to Congress in January with a supplemental budget request.

Federal Watershed Protection-Flood Prevention Program and Your Fishing

Conservationists can only be "for" a sound watershed protection program.

The amended Public Law 566, 84th Congress, broadens the Act now in force under the U. S. Soil Conservation Service, designed for watershed protection and flood prevention. According to a recent statement issued by the Sport Fishing Institute, Washington, D. C.

"Basic emphasis of watershed protection is on soil and water control. The agriculturist, the forester, and the soil conservationist combine efforts under the amended law to save our soil and water resources. However, it is our guess that insufficient attention is being given to this program by fishery biologists. Work sharing, as well as cost sharing, go hand in hand in the watershed program on the local scene. The Federal government does not pay the total bill. But local benefits exceed local costs." The Institute continues.

"Wasting away of our soils and waters in any watershed is directly detrimental to the habitat suitable for production of fish and other aquatic life. Here is where the fishery manager becomes involved. Although not all professional conservationists need play on-the-spot active roles, it is essential for fish conservationists to lend strong moral and vocal support to sound watershed management programs.

"We feel that the present SCS watershed program is undoubtedly in its infancy. Nevertheless, it is clearly a sound program which will eventually have far-reaching beneficial effects on the basic resources of America. Certain watershed demonstration areas are showing good specific results. At Salem, West Virginia, heavy rainfall on August 5, 1956 caused another flood. Four of the seven upland flood prevention dams along with other measures planned for the Salem Fork watershed

were in operation when the rains came. Headwater storage and control all reduced damage well below levels experienced at the time of a comparable flood of 1950 prior to the development of the watershed program. We believe watershed protection of this type will help have the best possible effect on fishing streams related to Salem Fork. Widespread application must follow across the nation.

"To a limited extent small flood prevention impound-

ments, for possible construction under this Act, can provide some new fishing. More important is the subsequent good effect on our fishing streams resulting from such beneficial practices as soil erosion control, flood prevention in the upland areas, proper stream rehabilitation, among other measures.

"The fisherman should welcome and encourage this program in his neighborhood."

Keep America Beautiful

The American people from coast to coast are "fed up" with littering and want something done about it. This is the crystal-clear conclusion of a nation-wide public opinion poll just completed by the Gallup organization.

How seriously the American people regard the growing litter problem may be judged from the fact that 86 per cent stated categorically that litterbugs should be fined—to the full extent of the law.

People reached by the poll comprised a typical sample of adult Americans in all sections of the country. Opinion appeared to be nearly uniform between men and women and among all age groups and regions of the country.

The survey indicated that about two out of five people across the nation know of some campaign or program for the prevention of litter. Best known were efforts of municipalities or state and county programs. There is evidence, however, that the efforts to arouse interest and awareness are bearing fruit in the first stage of awakening the public.

In releasing these survey results, Keep America Beautiful, Inc. pointed out that more than forty states now have anti-littering laws in effect. "However," they add, "the problem is not solved by the mere passage of laws." Enforcement of the existing provisions against littering is an almost super-human task, considering the countless miles of highways, streams, beaches, parks and other public areas which are subject to litter.

Local and state authorities have attempted with some

success to control littering by the "example" method—by making examples of flagrant offenders, levying fines and giving full publicity to such incidents. But it is clearly recognized that the true solution to the problem depends on the public mood. If the people dismiss littering with a shrug as something of interest only to the authorities, there can never be enough enforcement officials and clean-up men to cope with the problem. Now, on the strength of the Gallup survey, it is indicated that Americans are approaching a solid reversal in their casual attitude.

Keep America Beautiful, Inc., is the national coordinating organization devoted to the preservation and improvement of America's scenic beauty through litter prevention and maintains headquarters at 99 Park Avenue, New York.



"BOB IS SO SENTIMENTAL! HE CAN HARDLY WAIT TO GET OUR HONEYMOON STARTED!"

Hanging — separately or together

By HARVEY R. FRANTZ

IN 1776 Benjamin Franklin said, as he was preparing to sign the Declaration of Independence: "If we don't hang together we'll hang separately." These words and their meaning still ring as true today as they did in yesteryear and, as a result, our country by its united action has become the most influential and powerful in the world.

This basic principal also applies to our everyday life, especially so when we are striving to obtain an objective that is for the common good. One only has to look at the lobbies in Washington and Harrisburg to see how an organized and united action influences our lawmakers. Admittedly some of their aims aren't always the highest but never-the-less they are at least presented and recognized.

Suppose you had a request or problem that affected the other members of your trade or profession as well and you wanted to bring it to the attention of your elected representatives. Don't you think they would be inclined to take more interest, and possibly action, if the request or problem was presented to them as coming from an organized group rather than from an individual?

Our fish and game commissions, although they are paid state employees, are subject to the will of the sportsmen and will go as far and do as much as the sportsmen permit. The Schuylkill River clean-up was undertaken only because the State knew it had the backing of organized sportsmen as well as other recognized

groups. Naturally countless individual citizens were also in favor of the project but it was the organized groups that could and did stand up to the opponents of the clean-up and helped push it through over their objections.

There are a little over 5 million eligible voters in Pennsylvania but only about 72% turned out in the past election to exercise their right. However when the elections are over it will be the 28% who didn't vote who will do most of the complaining. The same might also be said for the sportsmen. The 80% that don't belong to clubs and organizations are the ones who will do the loudest moaning when they have poor hunting or fishing.

Joining any one of the 964 clubs in the State costs less than a box of shells or a good bass plug but the benefits derived are threefold. They are:

1. Better hunting and fishing.
2. Entertainment and comradeship.
3. Preserving the future outdoors by sponsoring and working with Junior Conservationists and Junior Sportsmen.

Lets take them one by one and see what they add up to. First: better hunting and fishing is the aim of every sportsman who loads a gun or baits a hook. Stocking by the State or club is one of the answers but along with stocking must go food, cover and management. These consist of shrub and tree planting for small game, winter feeding for larger game, nesting boxes, predator control, promoting clean

streams, building and managing hatchling ponds for fish, assisting fish wardens with stocking, especially in the early spring when ice must be broken for trout stocking, as well as numerous other projects. The state technical services can offer advice and instruction but it's the organized sportsmen's groups that must furnish the ways and means of getting the job accomplished. This cooperation between the State services and the sportsmen's clubs has naturally resulted in better, as well as increased, hunting and fishing throughout the Commonwealth.

Invariably it's the sportsmen who first notice pollution in fishing waters and bring it to the attention of the appropriate authorities, that in turn do something about it for they know, from experience, they will be hounded until they do. Industry, realizing that it is expensive as well as poor public relations to buck organized groups that have a legitimate complaint, is now cooperating in the clean stream program. Numerous instances of this cooperation may be attributed directly to individual sportsmen's clubs, county federation, and/or the state or parent federation of sportsmen's clubs.

Point 2. Entertainment and Comradeship: The clubs meet at least once a month for a formal meeting and where the club owns its own clubhouse a group of sportsmen are around most every evening. Movies on hunting, fishing, and conservation are shown and talks by representatives from the various state agencies pertaining to sportsmen are just a few of the advantages offered by the organized groups. Farmers and landowners are invited to meet with the sportsmen, usually before the hunting and fishing seasons, and many a "No Trespassing" sign has come down after a farmer meets and talks with the local sportsmen. Mutual problems are talked over, such as agreeing on parking places for the hunter and fisherman, constructing steps over fences, avoiding newly seeded fields, planting trees for erosion control, to mention a few.

Working on these various projects gives a comradeship as well as a knowledge of wildlife and its relation to environment that can't be obtained by just hunting and fishing. In fact some of the sportsmen become so interested in providing better and more abundant wildlife and fish that they hardly take time off to enjoy the fruit of their labors. The men and boys who work on these projects are the ones who don't gun and fish for the limit; they realize there is more to the sport than just

going out for a full bag or creel.

For the dog enthusiast there are clubs with their own acreage for field trials. Others specialize in fox and raccoon dogs and offer sport in those fields. There is now a state-wide amateur trap-shooters' league sponsored by 65 clubs in 37 different counties. At sportsmen's shows and field days the casting teams of the clubs are usually a main attraction.

Point 3 is probably the most important job or activity of the organized sportsmen's clubs and that is working with the young boys who are now the junior sportsmen and conservationists. In any trade, profession, and even in religion, it's the younger generation who will carry on, but they will do so only to the extent they are trained and guided for this leadership.

To do this most important job the clubs having fishing contests for the young folks where they are under the tutelage of veteran fishermen. Classes are held in handling firearms, a point that can't be stressed too much in this day of saturated hunting areas. The youngsters assist in the various club projects so they will realize that going hunting or fishing is a matter of put and take, not just take. Boys are sent to summer conservation camps and in reverse, the clubs also sponsor teacher scholarships at conservation education laboratories, who in turn can pass on to their pupils the importance and interdependence of conservation to everyday life.

Junior conservation clubs are sponsored by the adult clubs and the young members are encouraged and assisted to take on conservation projects of their own. The clubs cooperate and work with the Boy Scouts, F.F.A. and 4-H groups, as well as with boys who might or have already strayed toward juvenile delinquency and need only an understanding and helping hand to get back on the right trail.

The investment of a nimrod or angler in a sportsmen's club is insignificant in terms of cash and time but in dividends it pays off handsomely in two ways. One is tangible in better hunting and fishing while the other is the intangible conservation of our natural resources for the future, with the most important of all being the wise development of our most priceless possession—the growing boy.

* * *

Our state is one of the most beautiful in the country. Let's all keep it that way by not littering our roadsides, parks, lakes, stream, beaches and other public places with discarded trash.

Stream Clearance Program

Forges Ahead

Of deep interest to the fishermen of Pennsylvania and other readers of the PENNSYLVANIA ANGLER is the following recent summation of progress as supplied by the Sanitary Water Board of the State Department of Health.

"Although the use of water for all purposes in Pennsylvania is increasing greatly the condition of many of the streams in this State, from a pollution standpoint, is unquestionably vastly improved over that of only a few years ago, as a result of the State's Clean Streams Program," Dr. Berwyn F. Mattison, State Secretary of Health, declared recently in commenting upon the latest reports covering that program, which is directed by the Sanitary Water Board, of which he is chairman.

"A very large proportion of the more than 11 billion gallons of water used daily in Pennsylvania is polluted to varying degrees in the course of its use," Dr. Mattison stated, "but the installation by increasing numbers of municipalities and mills and factories of facilities for the treatment of those waste waters is not only preventing an increase of pollution, but is abating the pollution that prevailed for many years."

The most recent compilations of the Division of Sanitary Engineering of the State Health Department which executes the Clean Streams Program, show that up to August 1, contracts have been awarded in 1956, and construction begun on six new sewage treatment plants; on the enlarging and improving of four existing plants, and on five sewer systems, each of the latter to connect with the sewer system in another community which will provide treatment of the sewage in 10 of the 11 cases where new plants and connecting sewer systems are being built, treatment of sewage will be provided for the first time, and as is pointed out by Dr. Mattison, will necessarily bring improvement to the streams to the extent that pollution is now being caused by untreated discharges. In the instances where plants are being re-built, great improvement will also result since greater capacity and high degree of treatment are being provided.

The total cost of those projects is more than \$89 million. Leading the list is the construction of the extensive sewerage system by the Allegheny County Sanitary Authority which will serve 70 municipalities in the Pittsburgh district, including that city. There will be one disposal plant with a capacity of treating 150 million gallons of wastes a day. There will be 30 miles of intercepting sewers built in tunnels and about 34 miles of intercepting sewers constructed as open cut, or by trench excavation.

From an engineering standpoint the project is said to be one of the most difficult of its kind undertaken anywhere because of the varying topography throughout the entire area. The authority is listed as the largest in this country in the number of municipalities represented. Dr. Mattison stated "Great credit is justly given

the Authority and municipal officials for establishing a jointure of that number of municipalities to bring about a vital undertaking in promotion of the public welfare."

In addition to the treatment of sewage, large quantities of industrial wastes are also treated in municipal disposal plants. Many industrial concerns make agreements with municipalities under which the mill or factory wastes are discharged to the public sewer system and treated in the public treatment works.

In addition to the disposal plant being built in Pittsburgh, new plants for which contracts have been awarded this year, are under construction in Hickory Township, Mercer Co.; East Berlin, Adams Co.; Titusville, Crawford Co.; Mount Joy, Lancaster Co.; Pennsylvania State University, Centre Co., replacing an old plant in State College, (the new plant will also serve the municipality).

Additions and improvements are being constructed by Derry, Westmoreland Co.; Hanover, York Co.; Edinboro, Erie Co.; Wellsboro, Tioga Co. Sewers to connect with the sewer systems in other municipalities are under construction in West Lawn, Berks Co.; to connect with the system of the Wyomissing Valley Authority plant; Mill Hall, Clinton Co., to the Lock Haven plant; Upper St. Clair and Ross townships, and Bethel borough, Allegheny Co., in each case to connect with the Allegheny County Sanitary Authority sewer system.

During this year to the present time five new and two rebuilt disposal plants, placed under construction before 1955, have been put in operation. The total cost of those projects was about \$3,775,000. The new plants, providing treatment of sewage for the first time in those communities, are located at Ann's Home, West Hempfield Township, Lancaster Co.; Avis, Clinton Co.; Morrisville, Bucks Co.; Crow Creek Sewer Co.; serving a housing development and a Turnpike restaurant in Upper Merion Township, Montgomery Co.; Monroeville, Allegheny Co. Additions and improvements were built to existing plants at Slippery Rock, Butler Co., and Clarks Summit State Hospital, Newton Township, Lackawanna Co.

In 1955 13 new plants to provide treatment of sewage for the first time in those communities were placed under construction, the cost totalling about \$6,355,000. Construction of additions and improvements was started on plants in 12 municipalities involving expenditures of about \$8,500,000. Eleven new plants, construction of which had been begun before 1955, costing approximately \$11,250,000 were placed in operation last year, providing treatment of the sewage for the first time in those areas.

Noteworthy progress is also being made under the Clean Streams Program as related to treatment of wastes by industry. According to the reports systems for the treatment of industrial wastes to abate pollution

of the streams have been built and placed in operation at 586 mills and factories, anthracite collieries and bituminous coal washeries. Treatment works are currently under construction at 122 additional industrial establishments.

Abatement of pollution, however, is not obtained only by building treatment plants, it is pointed out. At the time of the last compilation, 390 industrial plants, to which orders had been sent by the Sanitary Water Board to abate pollution or prepare plans for treatment of the wastes, have entirely eliminated discharges of wastes to the streams by means other than building treatment works. Some mills and factories have changed their production systems which now provide for the re-use of water within the plant and eliminates discharges from the mill.

Records also show that more than 900 milk plants and 800 slaughter houses in this State do not cause pollution of the streams. A survey made by the Division of Sanitary Engineering showed that there were then about 1,000 milk plants and 900 slaughter houses in Pennsylvania. Those that were causing pollu-

tion at that time have since installed or are building treatment plants in compliance with orders from the Sanitary Water Board.

According to the records there are 88 canneries operating in Pennsylvania and practically all of them treat their wastes. It is also shown that steel mills, paper mills, tanneries, chemical plants, in fact practically all large industrial establishments, treat their wastes to at least the primary degree.

Mills and factories are required to provide higher degree of treatment when that step becomes necessary as a result of changes which might occur such as producing different types of wastes, increased production and improved condition of the river or stream along which the industry is located.

It is pointed out that practicable methods have not yet been developed for high degree treatment of some industrial wastes. In those cases the industries are conducting research at the instance of the Sanitary Water Board to develop methods to meet the Board's requirements.

ARE FISHERMEN SUCKERS?

Part of a timely editorial from the pen of Arthur P. Hutt, Editor, in *THE FISHERMAN* for September:

Fishermen are suckers—all of us. Perhaps that's not a diplomatic thing for a fishing editor to write, but still it's true.

How many times recently have we heard that tired old saw about baseball being the national pastime. Not even baseball's officials are convinced of that any longer. Baseball nowadays is strictly bush league compared to fishing in any sports popularity contest, but just the same fishermen always seem to come out second best. And we're suckers because we do nothing about it.

Take a look at newspaper coverage first. A large Milwaukee daily recently conducted a reader interest poll. Final results revealed that $2\frac{1}{2}$ times as many readers considered fishing their favorite sport as considered baseball first! . . . The point here is very obvious: although newspaper readers prefer one sport over another, they get big doses—page after page, in fact—of baseball news, but little on the outdoors. . . . And a fisherman is a sucker if he doesn't write to his newspaper editor to complain.

Let's take a typical case history: a minor-league midwestern baseball team called the Jets. For weeks before they opened the season, there was a steady hammering about the new team, the players, and the coming season on television, on radio, and in all the newspapers. . . . After all this, the total attendance

for the first six home games was little better than 5,000.

At the same time . . . almost 250,000 people purchased fishing licenses in the area covered by the same newspaper! Occasionally, in his spare time, a staffer would do a couple of columns a week on the outdoors. . . .

While thirty million Americans go fishing and spend three to four billion dollars in the process, attendance in major league baseball is falling off at an alarming pace. The minor leagues are in trouble and many of them are folding for lack of interest—but still the sports pages contain plenty of baseball. . . .

But baseball isn't the only sport given undue emphasis. A newspaper in perhaps the most rabid football city in the nation held a football clinic for grade school boys last summer in the college stadium. Interest in it was poor in spite of constant promotion for weeks. They might have reached far more boys at less expense . . . if they'd held a clinic in fishing, shooting, and camping. These are healthier, *lifetime* activities.

We're suckers because we permit a hundred other abuses to our sport. Pollution is one of the worst of these. Exploitation and grabbing of public fishing lands are others. . . . We pay little attention to our state conservation agencies.

It's harsh language, sure enough, but fishermen are suckers. . . .



NEW BOOKS ON FISHING

How to Fish From Top to Bottom

By SID GORDON, *The Stackpole Company, Harrisburg, Pa.*, 384 pages; Price: \$5.00.

It is worth a lifetime of experience!

Sid Gordon's revolutionary book, **HOW TO FISH FROM TOP TO BOTTOM**, provides the key with which the enthusiastic fisherman may unlock that greatest of angling secrets, known to so few,—the knowledge of how to "read water." The author declares that "water can be read like a book," and explains clearly and simply how this can be done.

Naturally the book goes far beyond this primary stage, and shows beginner and expert alike how to combine knowledge of water with angling techniques. Although he discusses fertility of water, degree of clarity, aquatic vegetation and organic life as the factors to be coordinated with methods of fishing and types of lures, don't let that frighten you. His book is distinctly down-to-earth and it is worth a lifetime of angling experience.

Sid Gordon, a highly respected piscatorial technologist of Wisconsin and Michigan, is also a fly and plug casting instructor, fly tyer and one of the great angling experts of the age.

The man or woman who cherishes angling as a sport which involves knowledge and technique will be fascinated by this great work. Once equipped with the pertinent know-how and the ability to deliver a lure, he who fishes lake or stream for bass or trout, or for any fresh water game fish, will find in this book a rewarding passport to more enjoyable action and greater personal satisfaction.

LURES, THE GUIDE TO SPORT FISHING

By KEITH SCHUYLER, *The Stackpole Company, Harrisburg, Pa.*, 276 pages; \$5.00.

Many anglers depend upon trial-and-error to determine the best possible lure to be employed under the existing conditions. Not so the expert; he applies knowledge, experience and sound logic to arrive at the proper choice. Keith Schuyler, one of the most ardent anglers of the age and a nationally recognized expert, provides

a royal road for the purchase and use of the artificial in his unusual work, **LURES**.

Wet fly, dry fly or numph; plug or bug; spinner or spoon; each has its place; each has its limitations. Surface fishing, underwater angling or bottom scratching enjoy big innings when certain factors exist. Trout, bass and the pikes react differently and should be treated accordingly. To further confuse the issue there is conflicting nomenclature, and efficient manufacturers have made available a wide variety of types, sizes and colors from which to choose. The result is doubt, misunderstanding, money ill spent and a waste of valued fishing time. The average fly box or lure kit is overloaded with one type but lacking in another, with the result that the angler has unknowingly handicapped himself.

The paramount consideration is the application of the lure to the type of water, the species of fish and the existing conditions. The greater one's knowledge of lures and fish, the greater the reward. This volume, the standard work of clarification, will go far to bring about the solution of the problem of what to attach to the business-end of the line.

No other war hero shot down and captured by an enemy could have been more eager to escape or more anxious for release than Keith Schuyler so that once again he could indulge in his cherished outdoor recreations and write about them.

We, of the *Pennsylvania Angler*, have a mighty warm spot for Keith Schuyler because he has contributed so many fine articles to our magazine over many years. We like his book and hope it will have a good sale not only in Pennsylvania but across the nation. We heartily recommend it.

FLOODS

By WILLIAM G. HOYT and WALTER B. LANGBEIN, 469 pages. Illustrated with 31 black and white photographs and 51 drawings. Published by the Princeton University Press, Princeton, New Jersey; 1955. Price \$7.50.

This is a comprehensive and impartial report on floods, probably the most destructive natural phenomena in American life. Essentially, the authors believe that the control of floods is measured in degree rather than in the absolute. Certain structures, devices, and programs will provide flood protection up to their design capacity, but there always seems to be a flood in excessive of this theoretical computation. An insight into Hoyt's and Langbein's thesis is gained from this quotation: "This catastrophe brings home the lesson that protection from floods is only a relative matter, and that eventually nature demands its tool from those who occupy flood plains."

The authors, members of the staff of the U. S. Geological Survey for many years, analyze the ways in which floods start and gather momentum, the damage they inflict, and what man can do to adapt to them, prevent them, and protect himself from them. They outline the judicial and legislative framework involved and suggest certain important changes. They describe the problems, projects, and plans in every major basin in the U. S., and present a history of our floods since 1543, by years and by streams.

Net Results

**blessing or nuisance a landing net is
sometimes a handy item**

By A. J. GOLISH, JR.

TO TRACE the landing net back to its origin is a difficult task. There are, however, several historical notes of interest that approximate the length of time nets have been in use. Reference to "fishers that spread net on the face of the water. . . ." can readily be found in Biblical writings. Izaak Walton (1593-1683) not only makes frequent mention of using his landing net, but lists it among the most essential pieces of angling equipment. After more than 300 years, it has not yet been decided if this creation is a blessing or a curse. While I've never been able to learn exactly who first put net cords on a hoop and attached a handle, consensus of opinion indicates it was first conceived by the gentleman with the cloven foot. In spite of all its shortcomings, experts agree that on a really big fish it's a handy item to have along.

To see a man improperly netting a fish is among the most hilarious streamside events witnessed. However, the sad expression on an angler's face as he loses his "prize" is a situation that causes even the most hardened oldtimer's heart to bleed. But if a few basic rules are followed, you can show your friends the trophy instead of giving them the old "one that got away" gaff.

An "eager beaver" early attempt to horse the fish from the water is the principal reason for such a high percentage of losses. It's like picking green apples. On this score the old-timers do well. They know from sad experience that you must play the fish out. Young anglers however, are thinking about cleaning fish two seconds after the strike. Until the finny fellow has been given every possible opportunity to expend his aquatic ability, strength, he will continue to act like a snagged bull instead of an obliging heap of subdued trout. "He that is willing is ready," says Confucious.

Keep the rod tip high at all times. To accidentally lower the tip is to ask for disaster invariably granted. *Don't lead the net to the fish, lead the fish to the net.* Waving the cords in front of him will accomplish nothing beneficial. Always lead the fish into the net head first. This practice is based on the theory it is harder for him to go into reverse gear than speed forward. Try to avoid hitting the lateral line of his body (A mid-body sensory organ extending the length of the fish). This line is very sensitive to touch and vibrations. Touching this line with the net frame will cause him to make a frantic, and too often, successful leaps to freedom. Be especially careful about touching your leader with your net frame. The law of leverage will either tear the hook loose or break the leader. In either case the fish wins.

I don't know who has the higher accident rate with landing nets—fish or fishermen. If you are unfortunate enough to possess a landing net that has an elastic



cord attached to the handle, make tonight the deadline for removing same. Beware! This cord is a devil in disguise! Aside from reaching out, grabbing every branch you pass, your net when slung in this fashion is about as accessible as a split-shot in a hipboot mid-stream. I can't think of a quicker way to break your back, your rod, your nose, or your New Year's resolution to quit swearing. Remove this impish and ill-devised gadget and replace it with a French marine snap swivel. Attach a sliding ring to your felt or jacket and you can choose the ideal spot from which to hang your net. With this set up you can put your net into action in record breaking time. Everytime I run across one of these cords in my tackle closet I get mad and sad all over. It brings back memories I would rather forget.

It all happened on Spring Creek, Centre County. We were fishing in our usual thirty-yard-spread manner,

that is, each man maintaining at least thirty yards distance from others in the party. As I was moving forward to my next position, I noticed that all three of my buddies were congregated in one very lucrative-looking spot. Since grouping like this seldom happens, it didn't take a great amount of brain working to figure out what was going on. I suspected they were being teased by a monster trout. A few seconds later my thoughts were confirmed. Right before my eyes was the size of fish I always dream about in March, but never see in April. My cronies were having a rat race changing patterns for this very particular fish. More by chance than skill, I wet a Mickey Finn and instantly got a strike that nearly broke my spine, almost. I don't know who was most surprised: my friends, myself, the trout, or the streamer. After that it was a battle of conscience. Part of me wanted to "play it properly" and part of me wanted to "creel it quickly." I chose the latter. My judgment was bad, very bad! In my anxiety to try a new floating net on Spring Creek, I neglected to remove the elastic cord of an otherwise excellent model. As I struggled in vain to free the snug fitting cord; my rod tip lowered, the taut line became momentarily slack and took several turns around a bush on the bank. The remarkable speed with which the fish had taken the streamer was greatly outdone by the speed in which he spit it out. Our gang gives a prize to the guy that releases the biggest trout of the year. I won. My prize was an ardent promise that I would receive the elastic cord of every net purchased by every last one of the gang in the future.

The nasty habit a net has of catching all overhanging limbs and bushes in its path can be curbed to some extent by the use of a rubber band. With it make a few wraps around the grip; bunch the bottom of the net in your hand, and draw the excess net cords under-

neath the rubber band on the grip. When you want to utilize the net, merely stretch the rubber band forward with your thumb, back with the index finger, and the cords fly out.

The size of the frame and depth of the net are aspects worthy of consideration. Some nets appearing along our waters have so little depth they look like, and are about as effective as beat-up squash rackets. The other extreme is the 2' x 3' model with a 4 foot drop. If you know where trout of this size hang out I suggest a gaff. Not only will it be helpful in landing the biggest fish, but handy to hang hams. A 12" x 16", 20 inch depth comes pretty close to being the real thing for most trout and bass.

The colors of the net inserts or bags are rather varied; they are available in green, black, brown, white, and heaven-forbid-orange. Every manufacture and fisherman has his own reason for thinking one of the mentioned colors is least visible to fish. I guess it's a matter of individual choice but not nearly so important as skillful manipulation.

In the past, net cords were usually made of cotton or linen, but as with most other fishing equipment, King Nylon is taking over. Nylon is not only stronger and smaller in diameter, it is for all practical purposes, indestructible.

Since cotton and linen landing net inserts are likely to rot, they should be included on the list of items for winter tackle-tinkering. Wash the cords in soapy water and allow them to dry thoroughly. Next, saturate the cords in warm linseed oil and blot the excess. This small amount of work pays high dividends. Actually we know it's not work at all, it's a legitimate excuse for fiddling with fishing gear all winter.

If you exercise just a bit of skill and patience in landing, a little bit of effort in upkeep, your "net losses" can be turned into "net gains!"



Pickerel aren't Pickers

By DON SHINER

(Illustrations by author)

TROUT and bass have always held top honors on the game fish list, but the character leering from the No. 3 spot could very easily over-shadow these if given just half the chance. Holding this position is the Eastern Chain Pickerel, a fish found inhabiting probably more waters of Pennsylvania than trout and bass combined. Further, it is capable of giving hours of solid fishing fun in accessible streams and ponds near the angler's home.

A flashing spoon or a diving plug with a tempting wiggle, cast with the least amount of skill will always lure pickerel into the creel. Their preference is for weed filled waters, eddies and coves filled with stumps, log jams and lilies. Lurking here in the shadows, they'll dart great distances like an arrow shot from a bow, pushing through immense tangles of weeds, zig-zagging upward through dense piles of brush to nail a shimmering spoon. And if missing the first pass, it will strike repeatedly over and over again each time the lure is returned to the water until it finally rests in a sizzling pan. Because of a certain fighting spirit, this fish should become a favorite of more anglers.

Near my home there are numerous small ponds and streams abounding with pickerel. Some of these do not run larger than the 18-inch mark on the ruler, but occasionally a few are caught that weigh as much as three or four pounds. Whenever the fishing urge becomes overwhelming and I have no desire to drive longer distance I frequently visit one of these. Whether my arrival is early morning, mid-day or toward evening I can count on action. The majority of these are released and I suspect some are caught over and over again during a season.

There is good fishing with natural baits—frogs and minnows. But plugs and spoons usually snag far more pickerel simply because with these the angler generally covers more ground. And speaking of ground, that is precisely what big pickerel need. Unlike pan-fish and walleyes, and in some cases bass, which feed in selected spots like a community gathering, pike and pickerel need sizable pastures to ward off hunger pangs. Preferring solitary confinement a particular fish will take up residence in one cove or eddy and it unmistakably belongs to him. Smaller fish venturing there are chased or eaten unless one looms into range that packs more size, weight or wallop. Anglers wading or drifting in some craft from cove to bay, pegging spoons toward sheltered spots are bound to pick up these lone gamesters.

Action is all important in pike lures. First choice in the hooks of many fishermen is the little weedless, silver spoon. This is a popular lure simply because it

can be tossed smack into the midst of a brush pile or in the center of lily beds and with reasonable care it always comes wiggling through. It works wonders with or without a thin slice of pork rind and equally so with a few bright red feathers tied to the hook for a dash of color. The wobbling, weaving, darting action, coupled with the bright metallic flash that looks every bit like a playful minnow, excites pickerel. They hit recklessly and with such force that the weed guard seldom prevents the hook sinking deeply into the heavily honed jaw.

If pickerel follow the lure right up to the boat, ten chance to one the lure is being retrieved entirely too fast, or it doesn't have the kind of wiggle he's looking for. They're none too particular about what they hit so long as it's moving and gives the slightest impression that it's edible. But you had better switch to another lure that can be reeled in slower and has perhaps a different "hula" action.

Another amazingly good lure is a surface plug. Few anglers realize that pickerel will come to the surface for a gurgling, crazy-crawling lure, but they will, with grim determination, poke that lure. Pools in streams or sheltered coves in ponds not over four or five feet deep are best for these top water plugs. Use them early morning or late evening. Surface plugs, poppers and hair hugs cast for bass are frequently taken by pickerel during the early part of July and later toward autumn when the shallows begin to cool. Hot weather sends them to greater depths and at that time a flashy spinner and fly cast or trolled deeply over weed beds produces pickerel for the skillet. Old timers swear by a fluted spoon and feathered treble.

When fishing for pickerel it is advisable to cover as much water as possible. Every cove should be worked over from various angles to give them plenty of chance to size up the lure. And after a dozen casts and a switch in lures, move to the next bend. You may hook into numerous small ones that fail to measure up to legal size. Unhook and release them gently into the cove again. Perhaps the very next cove, less than a hundred feet away, will hold a dandy, one that tips the scales at three or four pounds. These fellows know how to bend a rod, dance gay jigs and knife toward old stumps and logs to tangle lines.

Perhaps you've omitted these fish and spend most of the time pitchin' woo with bass. The next opportune time you have a few hours of angling grab the spinning or light casting rod and an assortment of four or five small lures, drive to the pond or creek inhabited with pickerel, nearest your home. Your wiggling plugs will prove that pickerel aren't pickers!

Meet Your Warden



Minter C. Jones—Regional Supervisor

361 W. Lincoln Street, Somerset, Pennsylvania

Mr. Jones was born November 2, 1902 and obtained his education in the schools of Quemahoning Township, Somerset County. He attended night school semesters at the Gladstone High school in Pittsburgh also completed studies in machinery and was associated with the Baltimore and Ohio Railroad Company as a Journeyman. He later qualified by examination as a Railroad I.C.C. Inspector. He later completed a course prescribed by the Pennsylvania State University and received certificate on Ordnance Inspection.

On March 12, 1941 Mr. Jones was commissioned a state fish warden. He was married to the former Maude M. Saylor and they have one daughter who is at the present time a student nurse at the West Penn Hospital in Pittsburgh.

Mr. Jones is the Regional Supervisor of the southwest division.

The southwest division is composed of the following counties: Greene, Fayette, Washington, Westmoreland, Somerset, Blair, Cambria, Indiana, Armstrong and Jefferson.



Anthony Discavage

104 Mulberry Street, Kittanning, Pennsylvania.

Mr. Discavage was born October 12, 1911 at Puritan,

Pennsylvania. He attended public schools in Cortage Township. Upon leaving school he was employed in the coal mining industry. In October 1949 he became an active game protector of Cambria County. On June 1, 1951 he was employed by the Fish Commission and was assigned to fish culture duties at the Reynoldsdale hatchery in Bedford county.

On August 16, 1951 Discavage became fish warden in charge of Armstrong county.

Armstrong county has approximately fifty miles of Trout streams. Buffalo Creek and Pine Creek are the major Trout waters of the county. Approximately sixty miles of the Allegheny river flows through Armstrong county, where Muskie, Pike, Perch, Great Northern Pike, Bass and all other warm water fish may be caught.

There are two flood control Dams namely, Crooked Creek Dam and Mahoning Dam which are used extensively for fishing and recreational purposes. There is a State Park at Crooked Creek Dam.



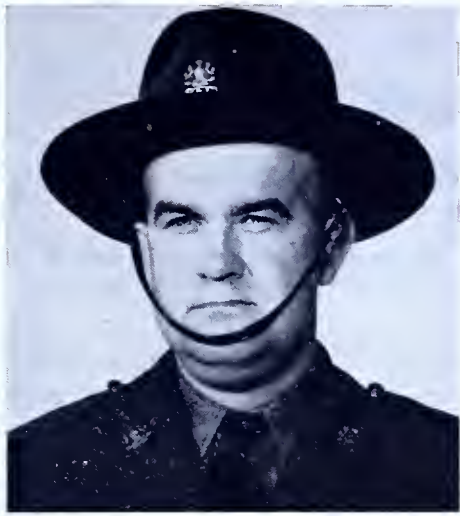
James H. Banning

1003 Granview Avenue, Connellsville, Pennsylvania.

Mr. Banning was born April 3, 1904 in Banning, Pennsylvania. Educated in public schools of Fayette County and four years Mercersburg Academy. Married the former Mary Katherine Keagy, August 12, 1926. For the next four years he owned and operated the Colonial Garage in Connellsville. Jim has two daughters, Mary Ann, Senior Connellsville High School; and Dorothy Jane, married. One granddaughter.

Member of the Fayette County Fish and Game Protective Association since 1927. Charter member of the Connellsville Chapter, Izaak Walton League of America; and served two terms as a State Director, Pennsylvania Division of the League.

Commissioned a fish warden April 1, 1933, was assigned to Fayette, Somerset, Greene and Washington counties. Present assignment Fayette county.



Budd R. Brooks

Bellefonte, Pennsylvania

Mr. Brooks was born April 4, 1925 and came with the Fish Commission in 1943. He left to spend two and a half years in the U. S. Army in World War II and spent fifteen months in the European Theater. Upon his return from the service he was re-instated as an assistant at the Pleasant Gap hatchery and Central Field office.

On August 16, 1950 Brooks was transferred to the enforcement division and assigned to the Washington and Greene county area. On September 15, 1956 he was transferred back to the Central Field Office at Bellefonte where he had been placed in charge of responsible duties.



Claude B. Baughman

607 E. Main Street, Roaring Springs, Pennsylvania

Mr. Baughman was born in Cumberland County February 24, 1914. He is a graduate of the Boiling Springs high school class of 1931. Baughman is married to the former Evelyn Negley and they have two children; a son, Douglas 17 years old and a daughter Diane 14 years old. Baughman came with the Fish Commission as a hatchery employee in 1939 and was assigned to the Huntzdale hatchery. He served as a special fish warden from 1940 until 1949 at which time he became a regular warden and was placed in charge of the field work in Blair and Cambria counties. Under the revised warden assignments, Baughman was placed in charge of the entire Blair county area with half of Cambria county.



Arthur L. Walker

R. D. No. 2, Indiana, Pennsylvania

Mr. Walker was born August 6, 1906 in Indiana, Pennsylvania where he obtained his education in the public schools. Walker engaged in farming with his father during the summer months and busied himself in other jobs in the dairy and grocery business during the winter months.

In 1925 he married the former Adelaide J. Harrold and they have three children. He later became associated with the Coastal Tank Lines where he became job foreman and during four years of that period he served as a special fish warden. On August 28, 1956 he successfully passed the state examination for regular fish wardens and subsequently on September 1, 1946 he was appointed in charge of Indiana County.



Dean R. Davis

S. Main Street Ext. Box 67, Punxsutawney, Pennsylvania.

Mr. Davis was born November 25, 1900 in Punxsutawney, Jefferson County, Pennsylvania. He was educated in the Punxsutawney public schools and on October 1, 1936 he was employed as a fish warden with the Pennsylvania Fish Commission. Davis is married and the father of a daughter and they reside at S. Main Street Ext., Punxsutawney.

Warden Davis is assigned to and in charge of Jefferson County and portions of Elk and Clearfield counties.



Joseph S. Dick

Box 64, Friedens, Pennsylvania

Mr. Dick was born September 3, 1927 in Roaring Springs, Blair County, Pennsylvania. He is a graduate of the Roaring Spring high school. At the outbreak of World War II he immediately enlisted in the armed service and served in the South Pacific area.

Upon discharge from the service in 1946 Dick was employed by the D. M. Bare Paper Company where he remained until October 1, 1953.

On October 1, 1953 he became associated with the Pennsylvania Fish Commission and after the required schooling and training he was made a regular State fish warden in March 1954 and assigned to the Somerset County area.

Mr. Dick is married to the former Vivian Burk of Duncansville and they have one child, Christine Joyce.



Sam F. Henderson

R. D. No. 2, Greensburg, Pennsylvania

Mr. Henderson was born December 16, 1904 in Greensburg, Pennsylvania. He attended the public schools of Greensburg and later the Leechs Business College. Henderson is married and the father of one child, a son. He is a member of the First Methodist Church of Greensburg and after a venture in the florist business and employment in the coal mines of Westmoreland County he became associated with the Pennsylvania Fish Commission.

Since March 1, 1931 Henderson has served as a fish warden and is presently in charge of the Westmoreland and Allegheny county area.

in the Editor's Mail Bag—

Wants More Fly Tying Articles

Dear Editor:

Year before last you had many articles on fly-tying which were very instructive. The last year you have had practically nothing along this line. I hope you will not neglect this aspect of fishing in your coming issues.

Wilbur K. King

Altoona, Pa.

We've come up with a few, Mr. King, recently. Satisfied?

Dear Editor:

Recently while reviewing my old PENNSYLVANIA ANGLERS I came across an article by Lee Diehl on rod-making. I subsequently wrote the ANGLER and before I knew it a letter from Lee was in my mail box. Since then, we have corresponded quite regularly. Lee has been most helpful and cheerful in his letters. Only through his written instruction have I been able to manufacture my own fly rod which I am both happy with and proud of. I have been able to use it on numerous occasions and am most covetous of this addition to my tackle rig. Full credit, naturally, goes to Lee. His letters are, by far, more informative than any texts I have read on the subject. If I may suggest, I would like to see more articles on rod making. We all know that a good rod usually costs more than the average angler can afford. Through rod building we not only put a good rod in our hands but materially add to the satisfaction of the catch.

Hasn't the ANGLER been publishing an awful lot of articles on conservation lately? We are all conservationists, I hope, but we subscribers are fishermen and that's what we like to read about. Fishing is an important facet of conservation. The best way to teach fishing conservation is to demonstrate the satisfaction of light tackle fishing. The joy of the stealth and then the release of the captured fish is the epitome of the fishing conservationist.

The ANGLER is a wonderful magazine. I eagerly anticipate its arrival each month and then enjoy reading and re-reading it.

Stuart Duffield

New Rochelle, N. Y.

Indeed a fine letter, Mr. Duffield. We certainly appreciate your comments and suggestion as we always do from readers interested in promoting better fishing. Inasmuch as that is exactly our business, we as a conservation agency, like to, in addition to actual fishing articles, give information on what we are doing, our problems and in contrast, the problems of other state agencies. In this manner we are covering a wide territory in the entire angling picture via only 32 pages. You understand?

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA FISH COMMISSION

FISH STOCKED IN THE WATERS OF PENNSYLVANIA 1955

<i>Species</i>	<i>Approx. Size</i>	<i>Number</i>	<i>Total</i>
Brook, Brown & Rainbow Trout	7-20"	2,704,687	
Black Bass	1-12"	566,479	
Catfish	5-12"	325,322	
Sunfish	3- 8"	143,565	
Frogs (Embryo)		123,402	
Carp	10-20"	26,650	
Yellow Perch	Adult	78,649	
Minnows	1½-6"	104,500	
Pickerel	7-18"	3,347	
Calico Bass	7-11"	9,750	
Pike Perch	Adult	405	
Lake Trout		4,469	
Muskellunge		20,599	
Suckers	2-5"	79,190	
Splakes		7,045	
Crayfish		39,000	
Backcross		10,300	
		—————	4,247,359
Fry and Fingerling			
Trout	Fingerling	3,919,763	
Yellow Perch	Fry	446,500,000	
Pike Perch	Fry	52,890,000	
Blue Pike	Fry	3,000,000	
		—————	506,309,763
			—————
GRAND TOTAL .....		.....	510,557,122



**PICKEREL FISHING IN
PENNSYLVANIA IS AT IT'S BEST
THESE COOL AUTUMN DAYS**

Pennsylvania Angler

NOVEMBER 1956

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Dollar Management — and Fish Management

By practicing just about every economy available to it, the present Fish Commission has kept, and expects to stay, substantially within allowable sums now known to be available to it for the fiscal biennium ending next May 31. To those concerned about the manner in which their fishing license dollars are spent, the story of what has been done, and why, would be of interest.

When the present Commission came into office a bit over a year ago, the budget for the biennium had already been fixed at \$4,282,000. This budget was based on anticipated revenues during the same two years. Half of this is \$2,141,000, and would, but not necessarily should, be used each year.

Just what the status of spending was at the time the new Commission took over and for several months thereafter, could not be determined because, among other things, posting of expenditures on the Commission's books had not been made for months.

Despite this circumstance, the impression conveyed to the new Commission was that it was in a healthy fiscal condition.

However, as the books were brought up-to-date, along with the inauguration last January of new accounting control and procedures, it became evident by mid-March that the fiscal condition was anything but healthy and that the rate of spending would have to be slowed down to avoid exceeding the budget.

Several factors contributed to that circumstance. Costs of goods and services used by the Commission continued to advance. The 1955 fall was an open one, allowing work to proceed on the Lake Somerset project later than planned, and there were other factors.

Thus, by late March, the outlook was that a continuation of the planned program for the first fiscal year, further strained by the above factors, would send expenditures to almost \$2,700,000.

Something had to be done quickly and drastically. And it was done. A sharp reduction in all spending was ordered by the new Commission. Every supervisor was instructed to economize on everything.

The results showed up quickly. By last May 31, expenditures had been reduced to a point where the Commission ended the first fiscal year with the committing and spending of \$2,225,000, which was only \$84,000 more than half the amount available for the full two year period. This had been done despite (1) being ahead of schedule at Somerset; (2) rising costs of all goods and services; (3) salary and wage increases on April 1 that were long overdue and still only a part of what they should have been, and (4) the adding of an assistant executive director and six regional biologists having skills needed to initiate the huge task of surveying Pennsylvania's streams and lakes so we would know what we have in the way of fishing potential and could begin planning betterment.

The 1955-56 expenditures left \$2,057,000 with which to run the Commission's business this fiscal year, ending May 31, 1957. Everything that could possibly be trimmed without serious or lasting dam-

age to our fish management program was reduced or eliminated. So far, with one exception, the Commission has stayed within that total in this fiscal year. The exception: On August 1, the Governor's new job classification plan went into effect. The Fish Commission, as a result, needed an additional \$61,000 with which to pay the accompanying new scale of salaries and wages for the rest of the year. The Commission also wanted to make certain of an early start next spring on the new Dutch Fork fishing lake in Washington County.

Therefore, the Commission asked, and received from the Governor's office, permission to increase its allotment from the Fish Fund this fiscal year by \$125,000. Thus the emergency was met.

The Pennsylvania Fish Commission probably has never before tried, or been obliged to carry out the duties put upon it by law on a plane so stringently economical as today. Every activity and operation in which the Commission has any choice, is being run at a rate that is far below what it should be. Badly needed repairs, maintenance and improvements at the hatcheries and other field installations are being held off. Cut backs have been effected on lake building, on acquisition of additional lake sites, on buying or leasing areas on rivers and lakes for free public access, on purchases of new heating equipment to replace old and costly-to-operate boilers at the hatcheries, on replacing trucks and other rolling stock in similar condition, on acquiring needed equipment for the Benner Spring laboratory and the offices of the fisheries managers. Something like 50 jobs that have been vacated by death, retirement or resignation have been kept vacant, leaving hatcheries and other stations short-handed.

All these things have been done, and are being continued, in a desperate effort by the Commission to stay within the limits of revenues available from present license fees and related sources. The Commission has no reserves into which it can dip in an emergency, despite rumors to the contrary that are still circulating around Pennsylvania. And costs of everything are still rising.

From the standpoint of dollar management, the Commission feels it has done well, and has no need to apologize.

But has the dollar management been good fish management? Will the fishermen of Pennsylvania benefit in the long run from the dollar economy that of necessity has been practiced? The answer to each must be a clear and unqualified "No." The fish management program of Pennsylvania has suffered and is going backward instead of forward in vital fields of activity. It will continue to do so; it cannot help but do so, as long as the present relationship of revenue to cost is allowed to prevail.



**COMMONWEALTH OF
PENNSYLVANIA**

HON. GEORGE M. LEADER
GOVERNOR

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Chief Enforcement Officer

★

REGIONAL WARDEN SUPERVISORS

Northwest Region
CARLYLE S. SHELTON
Conneautville, Pa.; Phone 3033

Southwest Region
MINTER C. JONES
361 W. Lincoln St., Somerset, Pa.;
Phone 5324

North Central Region
C. W. SHEARER
200 Agnew St., Mill Hall, Pa.;
Phone 375

South Central Region
HAROLD CORBIN
521 13th St., Huntingdon, Pa.; Phone 1202

Northeast Region
RALPH O. SINGER
456 Main St., Honesdale, Pa.;
Phone 1485

Southeast Region
JOHN S. OGDEN
York, Pa.; Phone 47-3028

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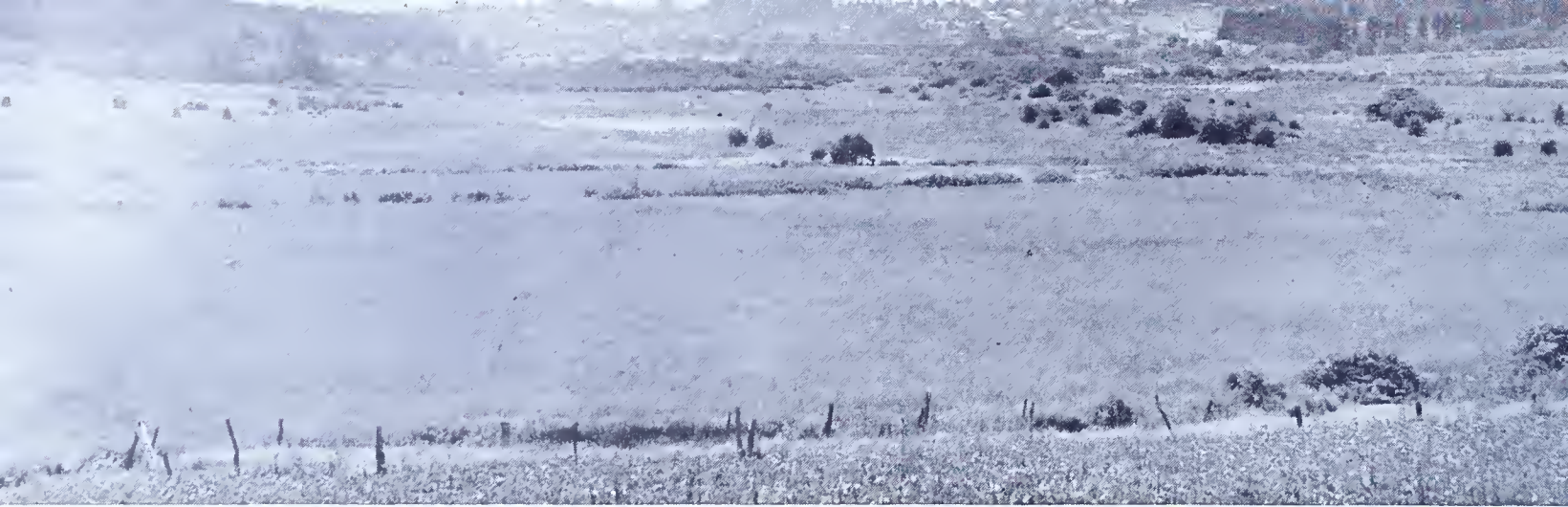
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J. Allen Barrett, Editor

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VIEW OF THE Lake Somerset site two years ago.

Lake Somerset Makes It Four

by C. Robert Glover, Chief

Conservation Education

Pennsylvania Fish Commission

"The Roof Garden of Pennsylvania," as the vicinity of the Borough of Somerset is billed by its Chamber of Commerce, now has a lake.

At the time of its mid-October dedication it was only a semblance of what it will be when Dame Nature spills another twelve inches of moisture on its water-shed. Right now it is one-fourth full. If normal precipitation prevails, along about mid-Spring, 1957, should see the first trickle lap over the spillway. And when that happens, the 1,600 foot dam breast re-

cently completed by the Pennsylvania Fish Commission will back up 253 surface acres of water within the total 468 acre plot. The lake will be approximately $1\frac{3}{4}$ miles long, $\frac{1}{2}$ mile across at its widest point, with an average depth of 15 feet, 26 feet at its deepest point and present $7\frac{1}{2}$ miles of shoreline. As it fills, 5,000 largemouth bass and 20,000 bluegill sunfish also will be adding to their proportions. The introduction of these fishes capped the dedication ceremony which saw Pennsylvania's

SPILLWAY and dambreast. When full, and flowing over spill, water level will be approximately three feet up the stone rip-rap of the breast.





PRESENT VIEW looking toward the dam breast.
IN THE background is Somerset Borough.

Lt. Governor Roy E. Furman deliver the main address and head a distinguished list of attending dignitaries, representing Federal, State and local governments and agencies and sportsmen's groups.

It was a big moment for the people of Somerset and environs—the fruition of a dream that presented itself no less than 18 years ago.

In that regard, and sounding the keynote of the project on the occasion of the dedication, C. H. Tennent, President of the Somerset Chamber of Commerce and Master of Ceremonies, said, "Lake Somerset is the result of the joint efforts of the Pennsylvania Fish Commission, our Chamber of Commerce and the Somerset County Sportsmen's League over a period of many years. The thoughts, plans and hopes of achieving this project can be traced back to 1938. It required the efforts of a great many people, both individually and collectively as groups and organizations.

"I BRING greetings and best wishes to you from his excellency, the Governor of Pennsylvania, the Honorable George M. Leader . . . You have taken an idea and an inspiration—and converted it into a reality . . . I congratulate you . . ."—Lt. Governor Roy E. Furman, at the podium. Seated left to right: R. Stanley Smith, Commission president; John Grenoble, commissioner, William Voigt, Jr., executive director of the Fish Commission; Charles C. "Jack" Houser, commissioner. Commissioner J. M. Critchfield also was present.



"Since three years ago, when it appeared that finally this lake would become a reality, there were long hours of planning and meeting, miles and miles of legwork and contacts too numerous to mention.

"Our local Junior Chamber of Commerce was contacted initially by the Fish Commission. Their proposal was referred to the Senior Chamber, which undertook, among other things, to negotiate with property owners at the lake site for options to purchase the land required.

"During these negotiations it was learned that the \$200 per acre maximum to which the Fish Commission was limited would not be sufficient to purchase many of the required acres. The problem was resolved by a fund drive undertaken by our Chamber of Commerce, which, thanks to the civic mindedness of many of our businessmen and other citizens,

resulted in sufficient funds to make up the difference."

In total, the amount raised by the Somerset people amounted to approximately \$50,000. The cost of the land to the Fish Commission over and above that amount was \$101,042.60. Another \$152,629 was expended in the construction of the dam and the development of the site. The latter includes the construction of an access road, of parking and sanitary facilities and of a concession building.

In addition to the cooperation lent the Fish Commission and the performances of the folks of Somerset Borough, the officers of Somerset Township planned to institute zoning that would bar for all time any development in the lake's relatively small watershed that would decrease the quality of the area for family enjoyment.

The minimum of erosion occurring in the watershed—a circumstance that will present a silt-free lake for many years to come, plus the assurance that such a zoning ordinance would be forthcoming, were important factors in the Commission's belief that this will prove a most worthwhile project.

It is to be noted that Lake Somerset was a Dingell-Johnson project whereby the Fish Commission will, upon the project's total completion and approval, be reimbursed to the extent of 75% of the total cost to the Commission out of the fund created by the existing Federal excise tax on fishing tackle.

Other vital statistics of Lake Somerset are: located in Somerset County in the Township of Somerset, 1/2 mile north of Somerset Borough and the Pennsylvania Turnpike between Rt. 53 and U. S. Rt. 219, 65 miles east of Pittsburgh, 28 miles south of Johnstown on the East Branch of Coxe's Creek, tributary to the Casselman River; land acquisition initiated in September, 1954; dam construction started in August, 1955; dam completed in September, 1956; dedicated on October 11, 1956; it is a fishing lake only—swimming and motorboats will not be permitted.

Lake Somerset is a total Fish Commission project, in that its every department—real estate, administrative, engineering, biological, hatchery and education played a role. From this point on the fisheries management division takes over completely, and will manage it as a warm water fishing facility. The groundwork for that activity was laid several months ago



AFTER A LOT of work and a lot of talk came the fish. Sharing the introduction honors were the Honorables Roy E. Furman, Lt. Governor of Pennsylvania and R. Stanley Smith, president of the Pennsylvania Fish Commission.

when the feeder streams and the marsh area the lake now covers were chemically treated to kill off all fish life. A new population was established when that dedication day stocking, mentioned earlier, was made.

By next Spring it is expected that the bluegills of that stocking will be of catchable size. It could be that some of the bass may likewise be suitable for the pan. But to make sure, adults of both species are scheduled for release therein next Spring and will be supplemented by walleye, black crappie and brown bullheads.

Thus Lake Somerset makes it four—the fourth fishing lake and largest to date constructed by the Pennsylvania Fish Commission in its program of creating new fishing waters.

Earlier lakes constructed were Virgin Run in

Fayette County, a 30 acre body of water within a 135 acre plot, in 1951; Duman Dam in Cambria County, a 20 acre lake within a 58 acre plot, completed in 1952; Glade Run Lake in Butler County, a 60 acre body of water within a 145 acre plot, completed in 1954.

Scheduled to get under construction this year was a fifth lake at Dutch Fork in Washington County. However, the lack of funds presently available to the Fish Commission for new lake construction plus the fact that allotted but unused Dingell-Johnson money will remain available until June 30, 1957, before it would revert to the Federal treasury, prompted the deferment of dam construction at Dutch Fork until the forepart of next year.

WHAT IS A FISHERMAN?

(With Apologies to What Is a Boy and all boys who don't fish.)

In innocent boyhood, in dignified manhood and in honored old age we find a delightful creature called a fisherman. Fishermen come in all sizes, weights, colors, autos, boats, caps and boots. They are all dedicated, enslaved and bonded to the same urge . . . To enjoy every second of every minute of every hour of every day and night beside a stream, lake or bay and to protest if there is interference by law, in-law or Nature.

Fishermen are found everywhere . . . on top of, beneath, climbing over, sitting on, standing by, shivering in, dripping with, hiding from, breathing down, two steps ahead of, getting ready, digging for, bailing out, running after fish trucks, dragging in, bragging about and smelling of. Mothers loved them, lucky girls married them, uncles and big brothers teased them, fathers and grandpas taught them. God enlisted them. The fish warden watches for them. A fisherman is a lie with a new look, a story with a new angle. All his hopes for the future are tied to tomorrow or the day when the fish will be biting and he will be there.

A fisherman is a composite. He has the appetite of a bluegill, the digestion of a shark, the energy of a muskellunge, the curiosity of a native brook trout, the lungs of a farmer bawling out a trespasser, the imagi-

nation of a lure manufacturer; the irresponsibility of a frayed tippet, the usefulness of a blacklash on a dark night, the glamour of a hellgrammite and the staying power of a relative.

Nobody else is so early to rise, so ignorant of lunch, so late for supper or so luke-warm about chores. Nobody else gets so much fun out of weeds, lily pads, sunken logs, long worms, heavy rains, fresh air and stinking minnows. Nobody else can cram into one pocket two rusty knives, a piece of shriveled garden worm, 3 feet, of knotted invisible leader, six split shot, a grocery order, last year's fishing button, two bottle openers, a ragged wet fly and a topographical map showing his favorite fishing holes.

A fisherman is a magic creature. You can lock him in your workshop, but his heart is dancing on a trout stream. You might as well give up—"he's got nothing to do, and it's all done." He can be captured, jailed, bossed, mastered—but only by a missing bundle of noisy small fry who perks up the hopes and shattered dreams of every "skunked" fisherman by shouting, "Hi, Dad! Catch any fish?"

Reprinted from Oil City Derrick and the outdoor column "Tall and Uncut" by Steve Szalawicz.

A man may wonder

By DAN SAULTS

Chief of Information, Missouri Conservation Commission

EVEN IF IT DOES IRRITATE old grads, I'd like to think out loud for a while about football teams and their stadia, basketball squads with their monster field houses, track teams languishing in loneliness before vastly-empty stands, and the polo, tennis golf, lacrosse, boxing, wrestling and cheerleading teams that are an integral part of high school and college life besides filling up sports pages when the baseball season is over.

Of course, these items in the Wonderful World of Sports are part of the American Way of Life and must not be questioned. They prepare Our Young Men and our Fair Womanhood for U. S. Citizenship and teach True Sportsmanship. We could not have won World War II without exhibition boxing matches by champions. And without the football squads of the Armed Services how would the Forces of Truth and Freedom ever have swept to Glorious Victory?

I do not question these virtues. But thinking aloud on a personal basis: I quit playing basketball 15 years ago and quit dreaming of stardom long before that; I haven't tossed a baseball for five years; I haven't engaged in fistieuffs since 1944, when an outranked second lieutenant decided to see if he should have been outranked.

But I still go fishing; I still hunt a little.

Nobody ever really taught me these sports I can practice as a middle-aged man; coaches were busy trying to develop a hook shot or a fast start in the Dashes. I wish, now, someone had taught me how to fish a little better, because that sport will be open to me as a participant for a good many years yet, God willing. Gunning or angling, I don't have to confide myself to indulging in what we collitch-cultured journalists call "vicarious participation."

So at the risk of being disloyal to the sports sections of the Free American Press, I'm wondering—not suggesting, just wondering—if a course in plug casting or gun handling would

not prepare our American Boyhood for Life just as adequately as football casting or basketball handling. Seems to me the acquired skill might be more useful after Boyhood has become Manhood, might even teach a man or woman to live with themselves better than they would learn by watching matched teams beat each other's collective brains out.

If this be Treason, make the most of it.

You can't draw 50,000 people to a fly-casting contest, nor get Old Siwash's name in headlines with an exhibition of gun safety. But the air is fresher on Blue Bonnet creek than in Yankee Stadium and there's more exercise in following a dog across a field than in sitting on a hard board using eyeballs and vocal cords. Techniques of live-bait fishing may not build School Spirit, but it surely wouldn't hurt academic standings any more than a 10-day jaunt in Madison Square Garden. Travel may be educational, but so few people get on basketball squads—someone has to be under seven feet.

It's hard to understand why so many schools resist hunting and fishing as "specialized interests" while paying a football coach more than the Dean of Men to instruct one-fiftieth of the student body. There are required "gym" classes, of course, but these generally—there are notable exceptions—rate calisthenics more ennobling than plug-flipping. Push-ups may build bodies, but their value in soul therapy is doubtful . . . and how many of you do push-ups now you're at the age to need 'em?

Hunting and fishing aren't particularly virtuous pastimes, but they keep a practitioner in better shape now than he's kept by the memories of boxing he did twenty years ago. Can you honestly name any sport that's useful to you today, unless you are a young professional?

I'm not griping, you understand . . . just wondering if a course in using the outdoors wouldn't be as useful as a class in folk dancing.

Better Fishing? Yes!—but . . .

Pennsylvania's fishermen, individually and through their sportsmen's associations have already made their desires known on one count—what they want in the way of fishing. It adds up to the best. It is the kind of fishing that can be attained only by a fisheries management program far superior to any now in practice anywhere in the land. In fact, it's a program superior to any that has yet been given voice anywhere in the land.

Still to be resolved, however, is the willingness to foot the bill for the best, or what will be acceptable in the way of a program and cost between what Pennsylvanians now have and what they would like to have.

To enable the fishermen of the state to arrive at a decision that (1) will enable their legislators to reflect their will in license cost legislation, and (2) to enable the Fish Commission to evolve a fisheries program in line with the revenues made available by such legislation, this and succeeding issues of the *ANGLER* will present the pertinent data that has been assembled, studied and applied by the Fish Commission in arriving at its recommendations.

Accompanying the program that is set forth below, and which at this point has been generalized, was a suggested advance of \$2.50 in the license fee, or its equivalent, to implement that program.

Basically, that program is a composite of what our fishermen have hoped for. It therefore has become the program and goal of the present Fish Commission whose objectives compressed into a single concise statement are: to do all in the Commission's power to assure that the people of Pennsylvania will have abundant and free fishing opportunities of high quality for now and throughout the foreseeable future.

The essence of that program currently in practice in part and, in total, envisioned for the future is as follows:

A. Propagation and Distribution

1. Use the suitability of both water and species as a controlling factor in fish stocking.



2. Other conditions governing plantings to include: (a) carrying capacities of specific waters, (b) fishing pressures, (c) best timing, (d) best return to creel or stringer, and (e) best sizes of fish to plant with respect to species and types of waters involved.

3. Avoid wasting fish and fish eggs by refraining from plantings when and where they're not needed, or where conditions are not suitable.
4. Seek new, low-cost sources of fish to be stocked.
5. Refrain from raising or distributing so-called "trash" species of fish.
6. Utilize pellet feeding of our hatchery reared fish, especially trout, as quickly as a suitable formula, or formulas, can be determined, both for purposes of economy and producing better fish.
7. As quickly as practical, utilize in our hatchery production program the improved strains of trout produced at Benner Spring laboratory.
8. Increase the rearing of predacious species, such as muskies, northern pike, and walleye, largely for corrective stocking of warm waters.
9. Place emphasis on size, rather than number, in trout production and distribution.

B. Research

1. Bring up to date our knowledge of the condition, fish food production and fish carrying capacities of significant public waters of the state.
2. Keep this knowledge up-to-date through continuing surveys and studies.
3. Search out the sources of and do what is within our power under law to reduce pollution.
4. Carry out a vigorous program of needed research to produce better strains of fish, better fish diets and to control fish diseases.
5. Expand our field and laboratory work in fish pathology.

C. Management

1. Control rough fish and stunted panfish populations, to the extent that it is practical, through netting and chemical treatment.
2. Seek better bank and watershed management, to prevent siltation and flooding, for lake and stream improvement and maintenance of quality.
3. Encourage construction and public use of fishable farm ponds.
4. Make fuller use of the natural productive capacity of existing waters.

Where and when feasible, transfer wild adult fish to new or depleted waters.

5. Carry out, and encourage others to carry out, stream and lake improvement operations.
6. Encourage the opening to public fishing of waters now closed.
7. Build more public fishing lakes.
8. Acquire now private waters for public use.
9. Speed up the Commission's program of acquiring access areas for public use of open fishing waters.
10. Speed up the development of these access areas—all-weather access roads and parking, sanitary and boat docking facilities—to make them better adapted for full public use.
11. Cultivate and promote more cooperation with sister agencies of the Commonwealth, with the objective of increasing and improving public fishing opportunity, and to accelerate action on our own responsibility under law to defend our waters against improper diversion and use.

D. Conservation Education

1. Improve our magazine, *THE PENNSYLVANIA ANGLER*.
2. Expand the scope of information releases on all phases of Commission activities.
3. Expand the variety and availability of booklets and reprints designed to educate and inform on matters of fish and general conservation.
4. Produce new films in sound and color on Commission work in the interests of public information and conservation education.
5. Produce a series of taped slide lectures to augment films in the conservation education program.
6. Develop exhibits and make them available for fairs, shows, etc.
7. Lend greater encouragement and expand assistance to the conservation education programs of schools, youth groups, sportsmen's clubs and other adult organizations.

E. Law Enforcement

1. Increase the patrol and scope of other pertinent activities of the wardens, in-

cluding river patrol in the interest of boating safety.

2. Provide the wardens with all the tools and equipment needed to help them perform their duties better.
3. Provide more and better in-service training to wardens.
4. Since the wardens are our first line of contact with the public and work largely without immediate supervision, exercise great care that men of high personal qualities are chosen.

F. Organizational Structure and Procedure

1. Continue to improve our organizational structure and procedures as better administrative and operational techniques are found.
2. Continue to search out ways and means of operating that will bring about increased efficiency and economy without sacrificing legitimate and needed services to the fishing public.

In order to implement the foregoing six point program, the following is essential:

1. Maintain an adequate staff of people having both common and rare skills necessary to do the work required.
2. Maintain scales of pay commensurate with the quality and quantity of work performed, also advancement incentives, competitive with other state agencies.
3. Bring our physical plant into good condition, to assure efficient operation, and then do needed maintenance to keep it so.
4. Replace old and costly cars, trucks and other mechanical equipment with new and better types for the sake of safety and to reduce maintenance and operating expenses.
5. Continually study our business practices and procedures, seeking better and more efficient ways of doing our clerical and related paper work.
6. Carry out in-service training programs for supervisory and other key employees in all Commission Divisions.

By contrast, if it is the will of the State's fishermen that the present license fee be retained, the following is the outlook, also generalized:

A curtailment of the present slow pace in the acquisition of areas for public access to fishing waters of all kinds.

Little in the way of development, proper marking and upkeep of existing public access areas, and of lakes, previously built or purchased.

No chance to speed up the surveying of streams and lakes to learn their condition and what is needed to improve them.

A continuation, at best, of the present minimal acquisition of sites and construction of new public fishing lakes.

Limiting our stream improvement work to technical cooperation with other state and federal agencies.

The continued slow development of laboratory facilities at Benner Spring, with consequent delay in the evolution of better strains



Attaboy Marty! Stay With Him!!

of fish to improve our hatchery production for stocking purposes.

Indefinite delay in the production of motion pictures and additional pamphlets, and material for the information and assistance of sportsmen's groups, youth organizations and schools in their conservation education programs.

Little in the way of studies and action programs in cooperation with Penn State University, Fish & Wildlife Service, U. S. Forest Service, and other agencies looking to improved fishing for Pennsylvania.

The barest of maintenance and repair of hatcheries and other field stations with continued deterioration in prospect.

Continue to lag, as is now the case, on the beneficial Dingell-Johnson program, with the

constant fear that some of this federal aid may have to revert to the federal treasury. (We have to spend the total project cost before the federal share is refunded to Pennsylvania.)

Little prospect to speed up and improve investigations of proposed coal mine drainage and other potential pollution to assist the Sanitary Water Board.

Few opportunities for adequate investigation of proposals to divert water out of Pennsylvania streams so that proper advice and recommendations may be given to the Water and Power Resources Board.

Continued reduced activity in stream patrol-

ling and other services by our fish wardens.

Though the foregoing outlook is exceedingly gloomy, it is by no means an exaggeration. It has been forced for the most part by two circumstances, (1) the increased costs since World War II of all goods and services needed by the Commission to perform its functions have far outstripped revenue increases during the same period, (2) the deterioration of the Commission's equipment and stations that has been allowed to occur in recent years.

A presentation of cost factors will constitute a major portion of continuation of this presentation in the December ANGLER.

Notes from THE Streams



Good News From Southcentral Penna.

It appears that the fishermen are convinced that an increase in the fishing license is necessary and are willing to go along if they are assured that it will be used to improve fishing.

The recent float fishing trip has created a lot of interest. I believe we will have good reaction.

—Harold Corbin, Warden Supervisor
South Central Region

Press Is Impressed

The float fishing trip in this particular District, most certainly served its intended purpose. The writers were impressed with the vast fishing potential of our rivers.

—Richard Owens, Warden
Huntingdon-Mifflin Counties

There's Always A First

Finished drawing down the Hills Creek Lake six feet so extensive improvements can be made. This is the first time it has ever been done.

—Leland E. Cloos, Warden
Tioga-Lycoming Counties

Like Giant Oaks From Little Acorns

The muskellunge that were raised at the Union City Hatchery average between 8½ and 9½ inches at the age of four months and four days. This is excellent growth when one considers that a muskellunge egg is only about the size of a No. 6 shot at time of hatching.

—S. Carlyle Sheldon, Warden Supervisor
Northwest Region

Thank You!—Quoth The Osprey, Ever More.

During the last week of August, Louis Gugliermo, Chestnut Street, Downingtown, Pa., was fishing in the Downingtown Brickyard Pond.

A largemouth black bass about 12 inches long was hooked, and in the act of fighting the bass to within about 15 feet from shore, much to his surprise an Osprey (a large hawk which feeds on fish) dove at the bass and started to lift it from the water.

Mr. Gugliermo and his son, Pete, shouted at the Osprey and threw stones and apples at it to no avail and finally the Osprey succeeded in tearing the bass from the hook and was last seen disappearing into a woods.

All the fishing party had left to take home was a good story and fishermen's luck.

*The foregoing was told to me by
Deputy Game Protector George Holden
of Downingtown.*

—Horace A. Pyle, Fish Warden
Coatesville, Pa.

Cool Rainbows

The cool weather in September started the rainbow trout to feed in the Koon Lake. I checked many fine catches ranging from twelve to fourteen inches.

—William E. McIlroy, Warden
Bedford County

Be Back Later—Alligator!

While patrolling Tionesta Creek, I saw a mink with a fish, which I believed to be a trout about eight inches long. After several attempts he finally succeeded in stashing his prize away in a hole in the stream bank.

—Kenneth Corey, Warden
Warren County

Particular Old Cuss

I recently checked a nice muskellunge caught in French Creek near Cambridge Springs which was 39 inches long and weighed 17 lbs. the amusing part of it is that the fisherman was using a large chub for muskies and became tired of fishing for them and decided to fish for walleye so he put a small chub on about 2½ inches and the muskie hit it as soon as he threw it in the water.

In the past two years there has been a lot of walleye pike fry stocked in French Creek and this year they seem to be turning up all along the creek in my district.

The bass situation is a lot better than in past seasons with catches averaging from 12 to 15 inches in French Creek.

—Edward O. Pond, Warden
Crawford County

D. B. Bashore of Lebanon Elected State President, Pennsylvania Division, Izaak Walton League of America

At the State convention held in Hershey on October 13-14 D. B. Bashore was elected President for the ensuing year.

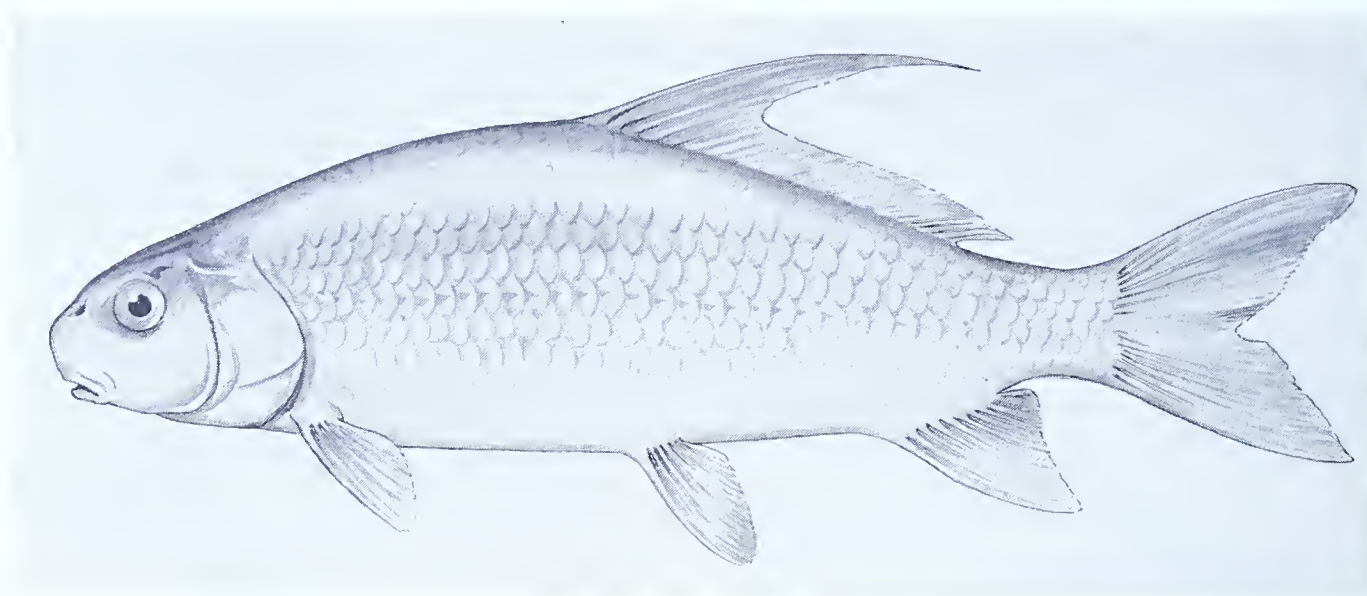
The location for the 1957 convention was decided and will be held at the Red Rose Chapter, Lancaster. In 1958 the assembly is scheduled for Philadelphia, while the national convention will be held in the Mayflower Hotel Washington, D. C., April 3-6, 1957.

Fishing trips can bring a happy feeling of togetherness for the whole family—but don't leave a trail of litter behind you. Help Keep America Beautiful by carrying a litterbag in your car.

* * *

THE COVER: Though Fall is for hunting to most sportsmen, there are some not so disposed, but who take advantage of its brisk days to get in those last serene hours for the year along some lake or stream. John Nicklas of Catasauqua, a staff photographer for the *Call-Chronicle* newspapers of Allentown, happened upon one of those anglers—anglerette, in this case—along about sundown, late last month on the Jordan Creek, just west of the Trexler Lehigh County Game Preserve in Lehigh County. The cover is the picture of that scene as John and his camera saw it.





QUILLBACK (*Carpion cyprinus*)

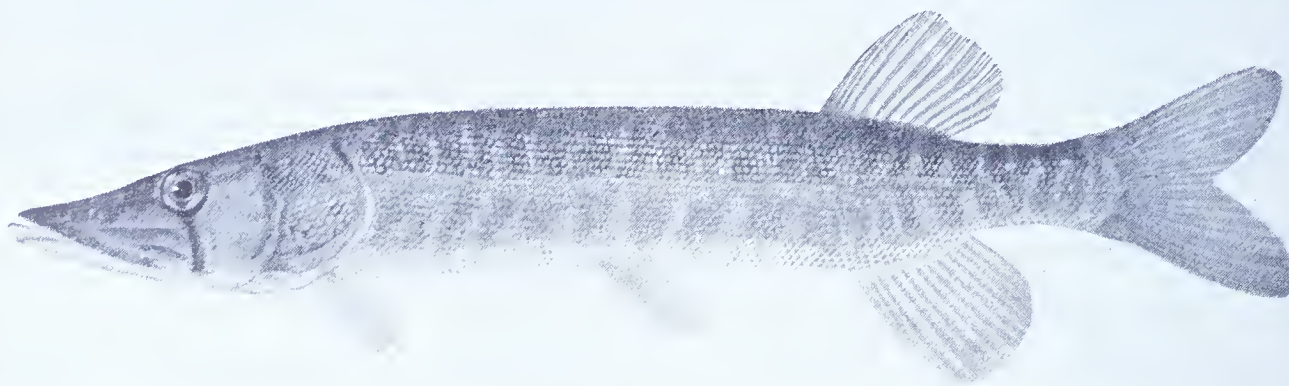
This fish is not often seen by sportsmen, but is of interest when found because of its appearance. It is rarely taken on hook and line, but is marketed when caught by commercial fishermen.

RANGE: Ohio River Basin, Monongahela and Youghiogheny Rivers and in Lake Erie.

CHARACTERISTICS: The quillback is silvery in color resembling a carp in body shape but with a sucker-like mouth. The backfin is long, as in the carp, but has a high quill-like extension on the front which gives the fish its name.

HABITS: It inhabits larger rivers and lakes moving into the smaller tributaries in the spring spawning season.

FOOD: Like other fish with an inferior mouth, the quillback feeds mostly off the bottom, living on worms, clams and other organisms in the mud and weeds.



GRASS PICKEREL (*Esox vermiculatus*)

This and the redbfin pickerel (*Esox americanus*) which are similar in appearance are pigmy representatives of the pike family—interesting for anglers to catch but hardly large enough for much food or sport.

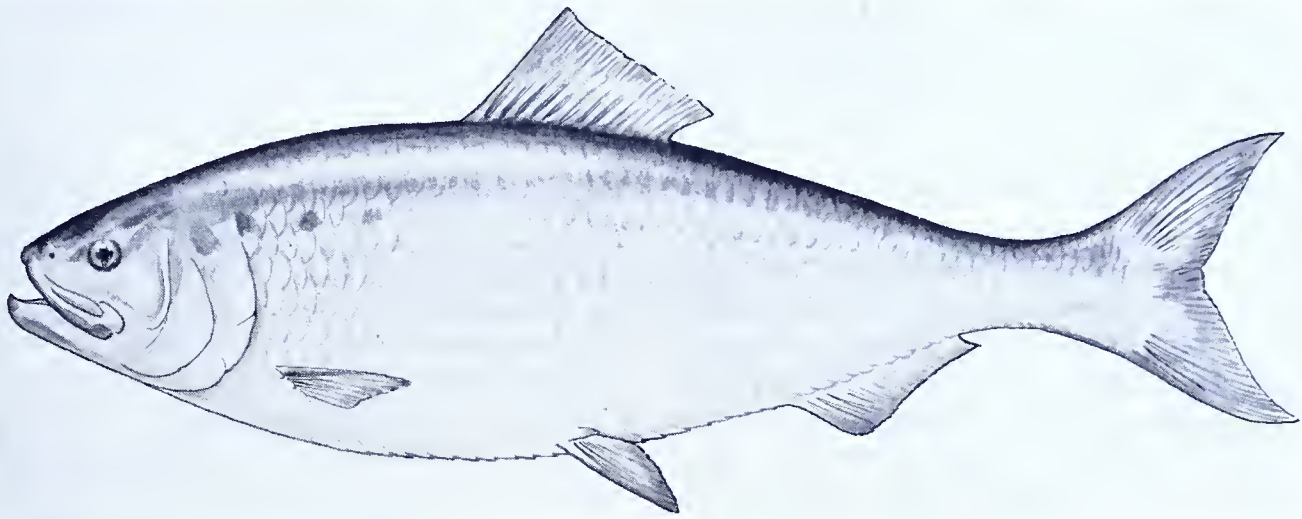
RANGE: The grass pickerel is found in the Ohio River Basin mainly in the northwestern part of the state; the redbfin in the Delaware and Susquehanna Basins.

CHARACTERISTICS: These fish are similar to the chain pickerel, described earlier in this series, except that they rarely exceed twelve inches in length.

HABITS: Both of these little pike live in quiet streams and lakes and swampy areas. They spawn in March and April in flooded grassy zones.

FOOD: Small fish, crayfish and insects make up the food.

LURES: Usually taken while fishing for larger game fish on spinners, streamer flies and small minnows, but are often returned by anglers thinking they are small chain pickerel—another reason for no size limit on these fish.



AMERICAN SHAD (*Alosa sapidissima*)

Said to give a good fight in fast water when taken on a fly rod, but the main harvest is by commercial netting. Although rather bony the flesh of the shad is of good quality and in good demand on the market.

RANGE: The Delaware and Susquehanna Rivers in Pennsylvania.

CHARACTERISTICS: A member of the herring family it is usually greenish in color with a prominent dark shoulder spot. The shad reaches a weight of several pounds—the female generally being larger than the male. The fins are soft-rayed as in the sucker, but the mouth is toothless and terminal rather than sucker-like.

HABIT: Spends its adult life in the ocean, but ascends the rivers in the spring to spawn. The young run to sea during the first summer or early fall.

FOOD: Adults are said to feed but little while on the spawning runs in the rivers. Aquatic insects are the food of the young.

LURES: Mostly taken on streamer flies or smaller spinners especially when concentrated below dams.



ALEWIFE (*Pomobolus pseudoharengus*)

Are important food fish in Chesapeake Bay where they range from twelve to fifteen inches in length and are taken usually in pound nets.

RANGE: Reported in the Ohio River Basin and in the lower Delaware and Susquehanna drainages. Have recently invaded Lake Erie, presumably through the Welland Canal.

CHARACTERISTICS: Resembles the shad but rarely exceeds six inches in length in fresh water where their only value is as a forage fish.

HABITS: Sprwn along gravelly shores and in the lower ends of tributary streams. The marine form ascends rivers as do the shad. Many die after spawning creating a problem where the are numerous and where shore resort property is involved.

FOOD: Feeds mostly on small water animals.

"Find-Out" Floats Pay Off!

This is Part II of a report on simultaneous float expeditions down portions of Pennsylvanias' four major rivers—the Allegheny, the North Branch of the Susquehanna, the Delaware and the Juniata. Part I in the October ANGLER presented the vital statistics and pictures. This part will be comprised mainly of excerpts from the columns of the outdoor writers who were among the complements of the floats. In the aggregate, their writings are read by countless thousands of sportsmen throughout the State and beyond.

With the probable exception of the recom-

mendation for an increase in the fishing license fee, nothing to have come out of the Pennsylvania Fish Commission in recent years gave rise to more words in print and over the air than the expeditions on the state's rivers conducted by the Commission and joined in by the representatives of the Game Commission, the Department of Forests and Waters, the Pennsylvania Outdoor Writers Association and the Pennsylvania Federation of Sportsmens Clubs. For three days in late September . . . but let the writers tell about it.



Mr. Mock

First on the Allegheny float by Johnny Mock of the *Pittsburgh Press* in "All-Outdoors."

Operation Look-See proved to be a howling success!

The lucky fishermen howled with delight; those on the other side of the fence howled because Lady Luck refused to recognize them. The outboards did their howling when a rock was hit in the riffles. Late at night the owls added their contribution and early in the morning a loon, which apparently had taken a liking to the Allegheny, joined in the fun.

When a member of the group ingloriously and unwillingly seated himself in the soft muck of the shore, there was howling. When Bill Voigt lost his musky there was more of the same. When Jake Knisely, chef par excellence,

felt a spark from the camp fire drop down his neck, the howling was shameful and when Bob Parlamen hooked himself to the stream bottom for the 17th time, one could hear the pandemonium far up and down the stream—but Bob was the chap who did the fish catching.

It all began when Voigt insisted Pennsylvania had possibilities equal to, if not better than, many states which have been staging float trips on their principal waterways. Since he has been in Pennsylvania only since last October, Bill is showing a fine example of civic pride in his adopted state.

To prove his point he needed assistants—some who could fish; others who could tell

about it; some who could pilot the craft; others who had the ability of choosing access points as the flotilla was swept downstream by the current, the river being perfect for just such a venture. Had it been any lower we probably would have noted sparks flying from the outboard propellers as we sped through the riffles.

Mother Nature apparently was much in accord with the venture because she bestowed perfect weather upon the group, with the exception of a light shower last Sunday. The fish co-operated as may be expected—when in a good mood most of the fishermen were successful. When the opposite was true, hardly anyone was triumphant; when indifferent, good fortune came only to those who refused to be licked.

At the close of the three-day jaunt we concluded that the claim of Bill Voigt was substantiated. After all, a stream which will produce walleyes up to seven pounds should be all the evidence needed by the doubting Thomases. . . . Needless to say, fish caught on the float made up a good portion of the menu. Voigt added a Southern touch by providing delicious “hush puppies” (after the grease finally got hot enough). Then followed a full session around the huge camp fire, while some busied themselves with their sleeping gear. The mosquitoes left when a heavy fog settled over the valley.

Someone remarked there were folks down in the city who would give \$1000 to be in our positions—matured individuals playing Boy Scout. Then someone else added there probably were many others who wouldn't give a dime for the experience and condemn us for not growing up, all of which proves it takes all kinds of people to make up a world.

Bill Walsh put up junior's pup tent which was to sleep him and the conductor of this column. With both in sleeping bags there was ample evidence that someone had grown up.

The dew was so heavy it could well have been called rain. One chap, who'll be spared mentioning, chose to place his sleeping bag—in the dark, of course—where the runoff poured down on him. It was he who insisted we must have had quite a shower during the night.

Why a chap will get up in the morning, dash around with a towel draped over his arms and materials in hand, looking for a place to shave is beyond us, but at least three of them did that. And at least a half dozen others put off washing the sleepy look from their faces until they got hot water. The sissies! And we thought we were out with a group of outdoorsmen. The hot water was all gone when we finally decided to do the same.



Mr. Johnston

Wrote Eldy Johnston in “Outdoor Views”—*McKeesport News*:

The air was crisp and misty, as a group of some 15 men prepared to launch five boats in the Allegheny River near Warren, Pa. This was the start of a three day float-trip that would cover a distance of approximately 66 miles and would terminate at Franklin. . . .

This “float” was not to be just another fishing trip, but had more serious aspects of importance not only to the hundreds of thousands of fishermen and boaters in the Commonwealth,

but to the many industries and businesses depending thereon, and of utmost importance for future generations.

The unalterable truth that our present generation has suffered from the ignorant and in some cases greedy mismanagement of our natural resources by our ancestors, is no reason to carry on the tradition. The main interest of the float-trip was to locate and procure, if possible, public access points to the rivers for the

boaters. Choice sites have been gobbled up so fast in some areas by groups and individuals, that a serious problem already exists. In five years it will be much more so, unless something is done immediately.

Another purpose of the float was to publicize the excellent fishing qualities of our big rivers, demonstrate float technique and perhaps direct some of the pressure from our relatively expensive trout program. . . .

It was about 8:30 a. m. when our boats hit the Allegheny at Warren. The river, incident-

ally, according to local observers, was just right for boating for the first time in several months. As for fishing possibilities, we intended to find the answer to that at the first opportunity. Our boats were sturdy looking but had evidently seen better days, as had also the ten-year-old outboards that were to be used if needed.

My boating companions, Hayes Englert and Jim Grove, quickly discovered that we had drawn a scow with running water, but an occasional bailing remedied this little detail.



Mr. Myers

Seth L. Myers in "Outdoor Rambling," *Sharon Herald*, who is also the Secretary of the Outdoor Writers Association, wrote:

One of the most interesting and educational expeditions into the great outdoors that it has ever been my good fortune to experience, was the three day float trip on the Allegheny River last week. It was a trip that I have wanted to make, ever since I was a boy and once rode a raft down Sandy Creek from Sandy Lake to the Allegheny River.

I remember reading about old time loggers who rode their log rafts down the Allegheny from Warren and Forest Counties to Pittsburgh, and how the mere descriptions of those trips thrilled me as a boy. And now, after nearly a half century of dreaming about such trips, I've

made one of them.

During the three full days that we were floating the river, there was little time that I didn't have my rod and reel working, but all the while I was drinking in the beauties of nature on both sides of the river. The main reason that I am writing this column, is that I want to encourage a lot of my friends and readers to consider making a float trip on this beautiful river. It is the only way that any person can know of the real pleasure to be had from making such a trip. No other person can paint the picture so as to present it in its full glory.

Bill Walsh of the *Erie Times* saw it this way in his "Hunting & Fishing" column:

Discovering a river is tough these days unless an outdoorsman hies himself to some far-off corner of the globe. But this writer discovered the past week-end that some rivers can be re-discovered. The water course we're speaking of is the beautiful Allegheny River. And the sec-

tion "found again" was the picturesque stretch between Warren and Franklin.

The "rediscovery" technique was a three-day float trip. . . .

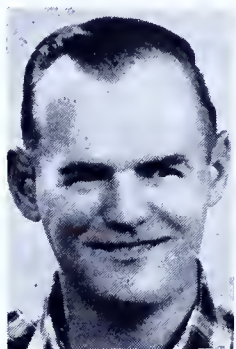
Purpose of the trip was to show the writers the tremendous fishing possibilities of

the river (generally not fully utilized by area fishermen) as well as to discover possible public access sites to the river which the fish commission is eager to acquire.

We caught an 11-pound muskie, a number of walleyes over six pounds, a few more over five pounds, and plenty of two and three pounders.

Also hooked was an 11-pound carp—foul-hooked through the eye which indicated he wasn't bitin'—merely looking it over.

Mission was also accomplished when a number of attractive potential public access sites were discovered.



Mr. Szalawicz

From "Tall & Uncut" in the *Oil City Derrick* by Steve Szalawicz:

AFTER WHAT happened last Saturday and Sunday we're sidling to the front of that long line of Pennsylvania fishermen who don't know enough about the Allegheny River.

And, like a favorite Franklin reader says, 'Mister' we're going to start learning. . . ."

When the float-fishing party of 15 stopped for lunch at the Tionesta state fish hatchery last Saturday noon and Bob Parlamen of the game commission in Franklin and "Whitey" Solomon opened up the fish box and started to toss walleyes on the lawn we thought that Ted Williamson and Pete Stubler of Oil City had found another Lake Kabonga in Quebec.

We never saw anything like it—on the Allegheny River. There were two seven-pounders, a five-pounder and a half dozen two and three pound pike, the keepers of a couple hours of fast fishing near Trunkysville and Tidioute.

At the supper Saturday and at Sunday breakfast Hayes Englert couldn't ever remember so many walleyes being caught in the Allegheny "Oh, someone caught one once in a while . . . Might pass up a Canadian trip for a float trip here next year" . . . Even Jim Grove of Tionesta, an old hand around the river, was a little excited. So was Fish Warden Norm Blum who drew shore duty. The visiting press like Eldy Johnston of the *McKeesport Daily News* said some words about deserting the Youghiogheny. Bill Walsh, *Erie Times*, thought the river

fishing was more interesting. Seth Myers of the *Sharon Herald* offered the Allegheny was "the best" and the boss of the float, Bill Voigt, executive director of the fish commission diplomatically said, "the Allegheny speaks for itself."

The talk of the trip was the walleye fishing. By much questioning and counting we estimated that at least 36 Walleyes were landed before the final dash from Rockinere to Franklin. Some were kept, others were returned for "floaters" who are going to flock when the story of the best walleye fishing in any river south of the Canadian border is spread nationally. And it will be told, with future chapters dealing with the serappy smallmouth bass that did not give their best performance last week.

But like we said when we stepped in front of that long line of Pennsylvanians who don't know the Allegheny River, "Mister, if we can keep siltation to a minimum and clean up and keep out pollution by raw sewage and industrial wastes, we're all going to learn more about it!"

RICOCHETING . . . No trip is without those who play and those who pay. In behalf of the POWA locally our thanks go to Joekey Vail, Tionesta butcher, for his smoked campfire snack; to George Yates and the Quaker State Refining Company of Emlenton for supplying the gas and oil for the 60-mile float; to

Mr. and Mrs. Leo Bender of Knox for sleeping our "sissies" in their dormitory at Eagle Rock Hideout; to Norman Blum and Jim Lauer of Tionesta for ferrying automobiles and supplies from campsite to campsite; to Jake Knisely of Bellefonte, a wizard at warming up potatoes over a Coleman; to Earl Krug for the same talents on the Rockmere Boat

Club range; to the Oil City Ikes for the shore lunch; to the Rockmere Boat Club for its facilities; to Paul H. Biery of Oil City for use of the campsite at Hemlock; to the Great Fisher of Men for the best three days of the fishing season, and safe sailing; to the Pennsylvania Fish Commission and its employees for manning the boats and the idea. . . .



Mr. Fisher

From almost opposite reaches of Pennsylvania's portion of the Susquehanna came the reports of the float that coursed its North Branch. First by Dave Fisher of *Beagle Journal* note, writing for the *Towanda Daily Review*.

Like in the days of old when Indians, loggers and voyageurs traveled the beautiful waters of the Susquehanna, a group of 12 men launched four aluminum boats equipped with oars and outboards, on a rainy morning about 200 yards from the New York state line, near Sayre, for a three-day 65-mile trip down the river ending at Mehoopany. . . .

This trip was not just another fish catching trip, but was more serious and of vast importance to the thousands of fishermen and boating enthusiasts in the state of Pennsylvania and future generations of such as well as to business and industry.

The purpose of the trip was to locate and procure, if possible, public access points to these waters, for fishermen and boating enthusiasts. In the past choice spots have been gobbled up by groups and individuals, so that as far as the general public is concerned, a problem existed and it is this problem that working together as a team, the Fish Commission and Department of Forest and Waters hope to solve to the benefit of all and not just a few.

No serious mishaps occurred and on pulling out at Mehoopany, after a glorious three days on some of the finest fishing waters and viewing some of the finest scenery in the state, farewells were said as all started the long jaunts for home. Everyone was well pleased with the accomplishments of the trip and the locating of a number of promising spots for access points for the benefit of fishermen and boating lovers as well as benefiting the communities located in the area from the trip made in their district and it is hoped that the results of the fishing will prove to fishermen that fishing on the river is just as productive and as much fun and that it will relieve the pressure on the trout waters, for here on the North Branch is a lot of good fishing water that is not being used to advantage by the followers of Izaak Walton. So I say to you boaters and you fishermen, get out on your stream here and learn about it and enjoy it and visit the picturesque spots and communities you will find along its path.



Mr. Carricato

Joe Carricato, who does his "Outdoors" stint in the *Patriot News*, Harrisburg, saw it this way:

"It has long been established here (Harrisburg) that yours truly is a 'druther' fisherman—'druther' fish for bass than for trout.

"After floating some 50 miles of the North Branch of the Susquehanna from Sayre to Meshoppen, we can add another 'druther': 'druther' fish my own bailiwick. Yes sir, give me the lower Juniata; the Conodogninet; the Susquehanna at Harrisburg, New Cumberland, Highspire or Goldsboro.

"But to be fair about comparative fishing, several factors must be considered: 1. One trip never tells the whole story. 2. The North Branch was high and muddy during our entire three-day trip. 3. Even if the water had been clear and normal in every respect, the 15 to 20 miles spread between campsites required too much speed. There really wasn't enough time to actually scout good fishing. . . .

"For the record, we were to 'explore' possibility of access points to the River. Potential launching sites for a day or more of fishing or scenic cruising; small, easily accessible camp and parking sites—that's the sort of thing we were assigned to find.

"But we weren't kidding each other, we wanted to outdo each other catching fish too. Our boat was piloted by Willard Persim, fish warden from Bradford County. My fishing partner was the Game Commissioner's Paul Failor. Paul, with his 'bugs' of deer and polar-bear hair, is one of the most prodigious catchers of big bass in the New Cumberland-Highspire (below Harrisburg) area.

"On the first lap, Sayre to Towanda, the Fish Commission's Cy Regan tied into a boat-pulling fish. Seeing only a flash through the murky water, Dick Reppert, regional fisheries manager, got carried away. Dick hollered, 'A walleye with eyes as big as half-dollars!' Cy said, 'Bet it's a carp,' at the same time hoping it was a walleye.

"After a half hour playing around, Cy got the fish close enough to definitely identify it as a carp of some 15 pounds. Shortly afterwards, the six-pound monofilament line snapped.

"Failor's catch for the day was six bass, none over 12 inches. A 13-incher was the largest of my four bass.

"On the second day, Towanda to Wyahnsing, Paul's bugs accounted for 10 bass. On the final lap, Wyahnsing to Meshoppen, Paul caught 16 bass raging in size from 2¾ inches to 12 inches. Failor was the champion of the trip. His 32 fish were all caught on bass bugs fished toward shore where there was some clear water.

"We were told by natives that all the larger fish are taken out of the middle. We couldn't prove it, but it figures. The entire river there seemed to be a rock bottom sloping toward a deep center channel. Down here we have deep, big-bass cover most anywhere in the river. The North Branch does not seem to have our deep limestone ledges; pot-holes; boulders; underwater grass plots; etc.

"One advantage of the North Branch, a big fat advantage, is the apparent lack of pollution. We didn't see the slightest evidence of accumulated oil, acids or sewage. The river there is also free of the siltation so prevalent in our area.

"We were disappointed in the fishing but the scenery was travel-folder stuff. The towering cliffs were splashed with myriad Fall shades. The thought occurred to me: 'Wouldn't those characters who dream up screwball names for milady's lipstick shades have a ball here?' Some of the cliffs were Grand-Canyonish with exposed strata.

"What was accomplished by the trip? State employees in the related agencies got some practical experience in seeking expansion of recreational facilities. The public, represented by writers, was on the spot to offer suggestions, criticize and react."



Mr. Stout

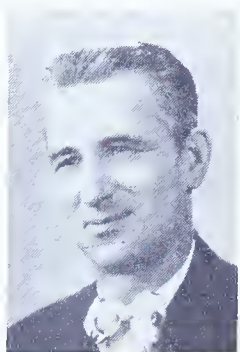
Wrote Frank Stout in the *Scranton Times*:

Big beautiful, full of fish and not fished enough. That's the Susquehanna River in its scenic meanderings from Sayre to Tunkhannock. . . .

. . . Hawks soared from the steep peaks overhead, mergansers, mallards, wood ducks and even a few geese blustered from the water around us. Our only reminders of civilization were the occasional glimpses of a barn and farm field or the glint of the sun on an automobile silently speeding like a toy along Route 6 through the hills far above us.

Meanwhile, we fished all along the way—with fly rods and spinning gear. Despite the un-

seasonably cool weather, our fly rods and imitation bugs fished on the surface of the water produced the most bass. The water was unusually high after many days of rain—a factor which made the fishing poor. Even under these poor conditions, our one boat alone accounted for 25 bass, all of which were returned to the water. It was obvious that the river is full of fish. Its waters are ideal for their reproduction, yet we saw every indication that the river is fished heavily only by resident anglers along its banks. The need is for more public access where a fisherman may get his boat into the water and park his car.



Mr. Fignar

The lone man with the typewriter on the Delaware float was John Fignar, whose "Hunting & Fishing" column appears regularly in the *Tamaqua Evening Courier*. Wrote John:

If you desire to spend your vacation closer to home and close to nature, a Delaware River float is one of the answers.

Float fishing is rather a new sport in the state of Pennsylvania and will gradually become more and more popular and desired. For one can take in a big chunk of nature. You would watch lofty mountain peaks with their green covered forests, which grow down to water's edge, slip past your craft.

For those of us who are wondering what a float fishing trip is actually like, here's the run

down. It all started when a group of men representing three state agencies, the Pennsylvania Outdoor Writers Association and the Pennsylvania Federation of Sportsmen's clubs decided on a three day float trip down the Delaware.

The float trip was sponsored by the Fish Commission with several purposes in mind. Of primary importance was the searching out of potential new public access to this large legendary body of water. Since public recreation of several kinds forms a large part of the work of the Department of Forests and Waters

and the Pennsylvania Game Commission, representatives from both these agencies were present

The day turned out to be one drizzling down-pour after another as the boys all decked out in various types of rain apparel went idling down the river with the outboard motors at half speed. However, fishing conditions weren't too favorable; nevertheless, the boys were either casting or trolling along in the current. We, particularly didn't care to fish too hard at this time. For in addition to fishing a float trip has many other attractions to offer. Particularly in regard to scenic attractions. A camera is a must, especially in the taking of color. For this is the time of the year where one of the most outstanding outdoor attractions of all, that, of course, is the annual Flaming Fall Revue, at which time nature turns the forests into a riot of color.

Getting back to our fishing. It is difficult and often misleading to state specifically that fishing is good; or that it is bad, or even in-between. Particularly so if such statements are based on personal angling experiences. Too much depends on the individual fisherman, type of baits used, methods employed, and luck. An excellent illustration to this effect was proven among the group. Harold Stitzer, casting a "Jitterbug" of spinning weight, picked up an occasional small mouth bass during the eleven-mile stretch. We used a Garcia "Eelet," a Shakespeare "Slim Jim," Bomber's "Bush-whacker," etc., each of which were fish getters. Elliot Goldman, using an Oster's "Lone Streamer," was picking up fallfish up to two and one-half pounds in weight, and it seemed that every time he got a strike, it was a fall-fish on that particular lure.

Just to prove that limit catches could be taken during a day's float, Joe Bartley and Jake Kintz resorted to live-bait fishing. Putting into shore, Joe would dig up a few lamprey eels (legal in the Delaware River) in the wet sand. Fishing fun with more action was realized than with artificial lures, the latter taking more time between strikes. . . .

As we float on down the river we pass scene after scene that prompts Tom Forbes in exposing many feet of Kodachrome movie film along with many stills. With weather conditions as they were, consequently, Tom was kept busy checking light conditions with a light exposure meter to obtain the best possible results. Wild ducks were sighted on each consecutive day and one aerial spectacle observed with interest was a large blue heron, giving chase to an offending, we presume, osprey that was beating a retreat in front of the clamoring heron. . . .

Fishing and sightseeing are not the only attractions a float-trip has to offer. For if you are a lead slinger, then your days afloat will have many thrilling moments. Bob Latimer's floating equipment included, besides a casting outfit a Winchester 12 gauge repeating shotgun, couple of boxes of shells and a crow call.

Bob would single out a likely-looking spot along the river's edge, glide in silently and moor the boat, take his shotgun out of its case, load up with three shells and using the crow call which Bob used with finesse, soon had the black rascals coming in within shooting range with the result that one or more would come tumbling down, never to raid a farmer's grain field again. Maybe, Bob doesn't know it, but the next float trip any of the boys take you can bet your bottom dollar that a shotgun, shells and a crow call will be listed as a must in the equipment taken along. . . .

Another attraction that can be included on a float trip was demonstrated by Jake Kintz, a bow and arrow enthusiast. Jake spent an hour or so each evening checking the shore lines and shallows for carp. Hunting or fishing with a bow and arrow for carp can give the fisherman many pleasant surprises. . . .

Anyway you look at it, the three day float was most certainly enjoyed, and we know that, that particular stretch of river (46 miles) can be floated without any trouble. We didn't catch any large fish, nor did we catch too many fish. Nevertheless, we most certainly enjoyed the thrills and gained new experience along with fun and good companionship.

Float number four was on the Juniata River. Reporting its progress and accomplishments in the *Centre Daily Times* of State College and Bellefonte, Alvin R. Grove, also president of the Pennsylvania Outdoor Writers' Association, wrote:

The four float trips sponsored by the Pennsylvania Fish Commission have been declared a success. They took place on the Delaware, North Branch of the Susquehanna, Juniata and Allegheny Rivers the last weekend of September.

Those who floated the rivers had a good time, but much more important is the fact that the trips pointed up the very desirable features of such expeditions and the need for their future development.

For a long time the warm-water fishermen of the State have been feeling the pinch for suitable places to fish. The favored few fortunate enough to live on the bank of a good stream have little trouble in reaching productive fishing water.

But the landlubbers of Centre County have more than their share of difficulty in finding a spot for their boats even when the river is within sight.

The four float trips offer no immediate solution to this problem. But this is a step in the right direction. Not only is the need for access points obvious but there is the urgent necessity of acquiring these sooner rather than later.

The ever increasing value of land and the growing demand for stream and lake sites are rapidly pricing these areas out of the reach of state agencies. Unless steps are taken in the near future to insure access to public water, not only the present-day fishermen but those of future generations will become more and more dependent on the commercial pond, or fee fishing.

Sound fisheries biology, as well as economic pressure, dictates that we take advantage of the water which gives us nearly free fishing. Fishing provided through a stocking program has already expanded to about its feasible economic limit.

The solution of the fishing problem lies, in part at least, in using natural fishing already in existence but sometimes beyond the physical reach of the state's fishermen. . . .

That afternoon, we covered the water past Horning Ford. Near Granville, which is on the southside of Juniata River, we stopped for the first night's camp.

We had covered a distance of about 15 miles without difficulty. Although the water was a little low and cloudy, the fishing was good. In fact, those on this trip finally decided that this portion of the float offered the best fishing of the three days in spite of the rather poor water conditions. Probably around 60 bass were taken the first day by the eight fishermen in the four boats. . . .

The float from above Newport to Amity Hall was relatively short and snappy. An upstream wind caused some disconcerting moments in shooting the low rapids at several points. And in one instance, it was decided that the better part of valor would be to drop the boats through the white water at the end of a rope rather than to ride it through.

Fishing was poor but the beauty of the stream and its banks, serious talk of acquiring access areas, the place of Forests and Waters in the developing recreational program and the need of more funds for the Fish Commission occupied our time and thoughts.

We had covered 15 miles the third day. When Amity Hall came into view, most of us were willing to call it quits and get busy planning the next float. It was a real experience, and was the first time we had floated as much as 50 miles of the famous Blue Juniata.

After catching around 20 bass and losing a fish at the second railroad bridge above Lewis-town, a fish large enough to break a new 10-pound test line, we were scheming to get back into that area as soon as possible.

A second writer to take the Juniata float was Francis Kemp, author of "The Sportsmen's Year" in the Huntingdon-Mt. Union Daily News. Though he too treated the floats in his column, he went further and prepared a "Report and Recommendations," a document that speaks for itself and him.

In view of the thought provoking nature of his work, it is felt that justice could only be done to it by a full presentation. Space limitations in this issue, however, make it necessary to hold it for publication in the December ANGLER.

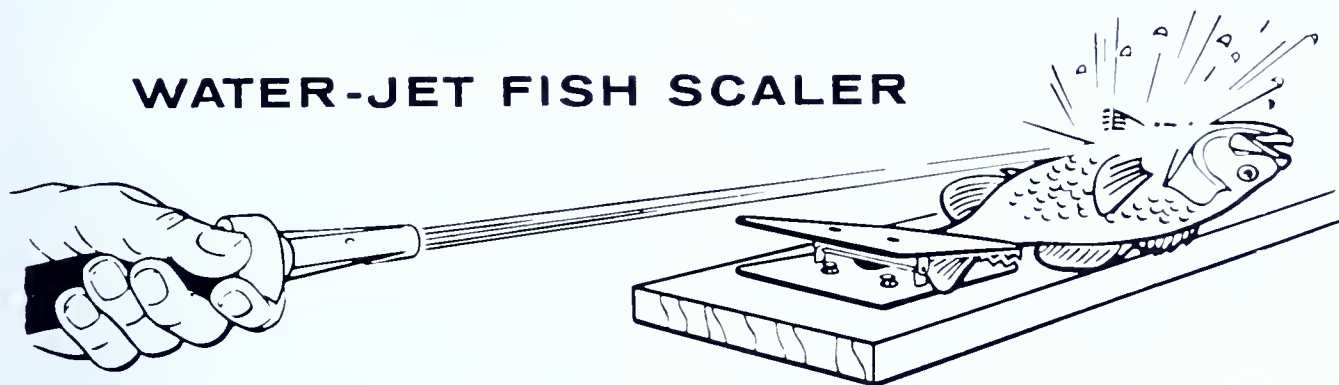
New Things In Tackle and Gear

Intended as a service to ANGLER readers wherein new items of fishing tackle and outdoors gear that come to the attention of the editor are introduced, with no intention of endorsement.

Address all inquiries to the respective manufacturers.



WATER-JET FISH SCALER

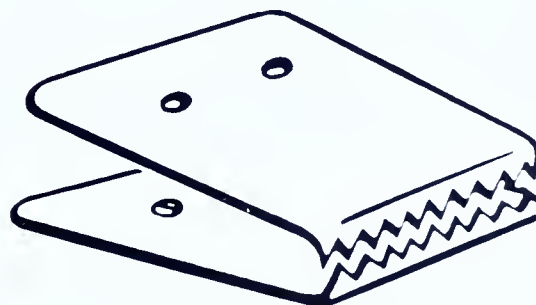
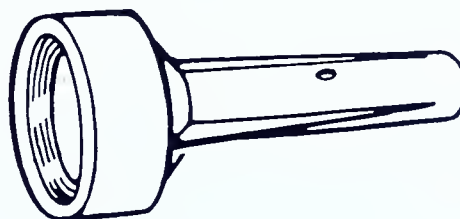


Water-Jet Scaler

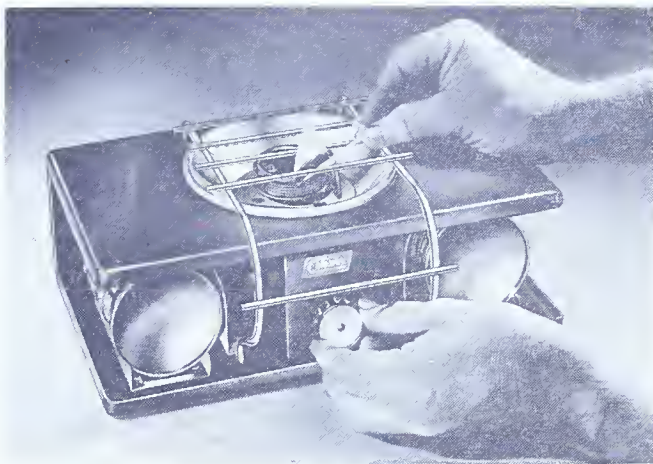
Using a powerful jet of water from a specially designed nozzle, a new device quickly removes scales from Bass, Bluegills, Crappies and most game fish. Known as the WATER-JET FISH SCALER, it makes the messy chore of scaling the catch quick, clean and almost automatic!

Attaching to any garden hose, the "WATER-JET" nozzle has a venturi-type vent that gives the stream of water just the right characteristics to lift scales in a hurry without damaging or breaking the skin.

A two-way clamp is provided to hold the fish by the tail. The clamp drops over nails driven in any log or board, allowing you to flip the fish over and clean the other side without removing the clamp.



The WATER-JET FISH SCALER is a product of and for sale by the Fred Arbogast Co., Inc., 315 W. North St., Akron 3, Ohio.



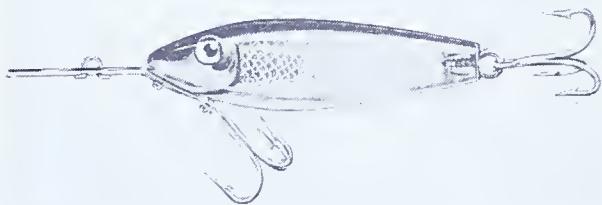
New Portable Camp Stove

A new type of portable camp and picnic stove that burns LP-gas sealed in disposable cartridge-type cans is a new product of the Coleman Company, Inc., Wichita, Kans.

Only 12 inches long, 7 inches wide, and $3\frac{7}{8}$ inches high, the Coleman picnic stove weighs 4.4 pounds including two full cans of fuel. The stove lights instantly and will not flare. A single metering valve regulates the flame. At full flame the stove produces 4,000 Btu.

The stove is designed so that it will not tip under a heavy cooking utensil. The burner is recessed in a heat-reflecting burner bowl of burnished aluminum. The grate is easily removed for cleaning.

The stove is offered with two factory-sealed cans of fuel, each capable of operating the stove at full heat for two hours. When the fuel in one can is exhausted the empty container is removed and the reserve fuel can snapped in place without the use of wrenches or special tools. Local Dealers or Coleman Company, Wichita, Kans. Direct.



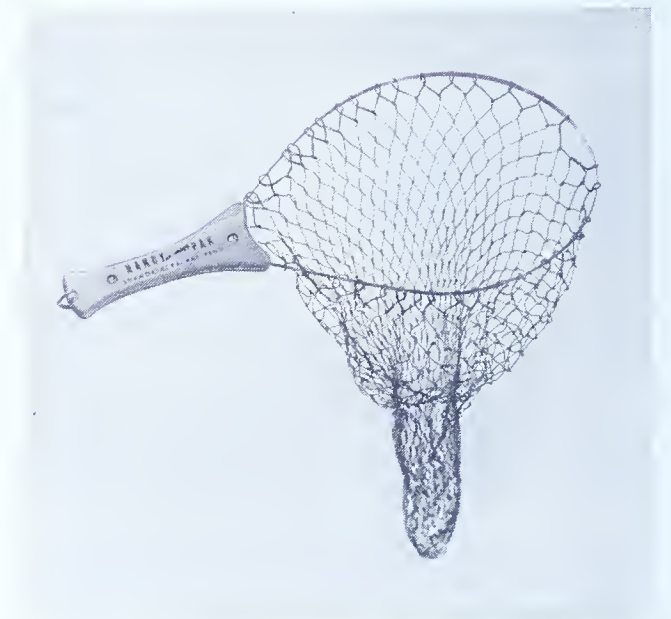
New "3D" Scale Finish Spinning Lure

The gem of the Mirrolure Spinning Series! The already famous Built-in Flash, and the life-like darting, diving action of this little fellow

is now spectacularly enhanced by a realistic, three-dimensional, transparent scale finish.

Length— $1\frac{1}{2}$ inches; weight $\frac{1}{8}$ ounce; running depth 2-6 ft.; No. 8 extra strong hooks. Available in all regular Mirrolure colors. L&S Bait Co., Inc., Bradley, Ill.—Clearwater, Fla.

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Compact in leather case the net goes into action in a flash and just as easily is returned to leather case. Strong net mounted on high grade spring steel collapses in a jiffy. Local dealers, or Handy Pak Net Co., Inc., Box 158, Shamokin, Pa.

Sites Wanted: for new lakes construction for public access areas

The declaration by the Fish Commission of a fiscal emergency in one breath, and in the next asking for leads to sites of access to rivers and lakes, and sites which present the potential for new lakes' construction, may appear contradictory. It is not necessarily so.

It is true that the likelihood of acquiring such sites beyond those already provided for in the present budget is quite remote for the next year and a half. Further, the rate of acquisition in 1958 and thereafter will depend upon the revenues made available to the Commission through license sales. At the present license fee, acquisition will be painfully slow. However, that rate can be speeded in direct ratio to any increase in the license fee that would be approved by the people who pay the bill and enacted by the legislature.

Despite the present circumstance, a list of potential sites of each type is both desired and advisable. At least they can be investigated. In many instances, investigation is a time consuming procedure, but if completed in advance, will represent that much time saved when funds are available. And if investigation reveals any site to be suitable, steps can be taken to place it under option—to reserve it—for future purchase.

There is another equally sound reason to take these steps now. As time goes by, the demand by other interests for sites that afford recreational possibilities will increase. It is therefore not unlikely that additional delay could conceivably place the more desirable areas beyond the reach cost-wise of the Fish Commission.

The Commission, therefore, is asking that sportsmen across the State advise it now of sites they feel would lend themselves to the creation of lakes, and sites that would represent permanent access to lakes and rivers that are now, and are likely to remain, open to public use.

The features to be taken into consideration in recommending lake sites are as follows:

(1) In areas where there are presently few or inadequate warm water fishing facilities;

(2) Sites on land other than fertile farm land;

(3) Sites that would lend themselves to the construction of dams that would create lakes no less than 50 acres in area and up to 30 feet in depth;

(4) Sites that could be acquired and upon which dams could be built at a cost justifiable to the sportsmen of the Commonwealth;

(5) Sites in which there is a year around supply of water of good quality;

(6) Sites on which lake construction would require a minimum dislocation of highways, power and gas lines and buildings;

(7) Sites with which acquisition of mineral and gas rights by the Commonwealth would present no problem;

(8) Sites on watersheds not subject to excessive erosion and on watersheds that could be protected by zoning ordinances to forever guard against incompatible uses. The former would result in rapid silting of the lake, the latter could adversely affect the quality of the lake for family enjoyment.

The qualifications for access areas are not nearly as limiting. On these areas land cost and reasonably close proximity to public highways would be paramount factors.

Recommendations of either type site and directions sufficiently accurate for commission representatives to locate the areas may be addressed to William Voigt, Jr., Executive Director, Pennsylvania Fish Commission, Harrisburg, Pa.



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Holiday Greetings

from the

PENNSYLVANIA FISH COMMISSION

**COMMONWEALTH OF
PENNSYLVANIA**

**HON. GEORGE M. LEADER
GOVERNOR**

★

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★

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DIVISION**

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Assistant**

★

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Construction Engineer**

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**DEWEY SORENSON
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Chief Enforcement Officer**

★

REGIONAL WARDEN SUPERVISORS

Northwest Region

**CARLYLE S. SHELDON
Conneautville, Pa.; Phone 3033**

Southwest Region

**MINTER C. JONES
361 W. Lincoln St., Somerset, Pa.;
Phone 5324**

North Central Region

**C. W. SHEARER
200 Agnew St., Mill Hall, Pa.;
Phone 375**

South Central Region

**HAROLD CORBIN
621 13th St., Huntingdon, Pa.; Phone 1202**

Northeast Region

**RALPH O. SINGER
456 Main St., Honesdale, Pa.;
Phone 1485**

Southeast Region

**JOHN S. OGDEN
York, Pa.; Phone 47-3028**

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St. Peter And The Fisherman

By EDWARD MENTZ

It is comforting to believe that the chances of gaining Heaven are much in one's favor if, instead of being an ordinary mortal, he happens to be a fisherman. Angling lore has it that St. Peter was a fisherman. It follows, therefore, that he is kindly disposed to the piscatorial prevarications which flow from confirmed Waltonians as inevitably and as naturally as water flows to the sea.

That he has a warm feeling toward the ichthyophilist and tolerant of the phobia engendered by the avocation was revealed after the untimely demise of one mortal whose stay on earth was brightened and whose imagination was sharpened by matching wits with its finny creatures. The revelation took place when said erstwhile mortal timorously stood before the venerable St. Peter, seeking entry through the great portal.

The Guardian observed, "So your fellow men condemned you as an exaggerator of things piscatorial?" Then he continued, "Well, let's weigh the veracity of just one of them. I would especially like to hear the experience I'm told you oft related of the trout that saved Sidger's life."

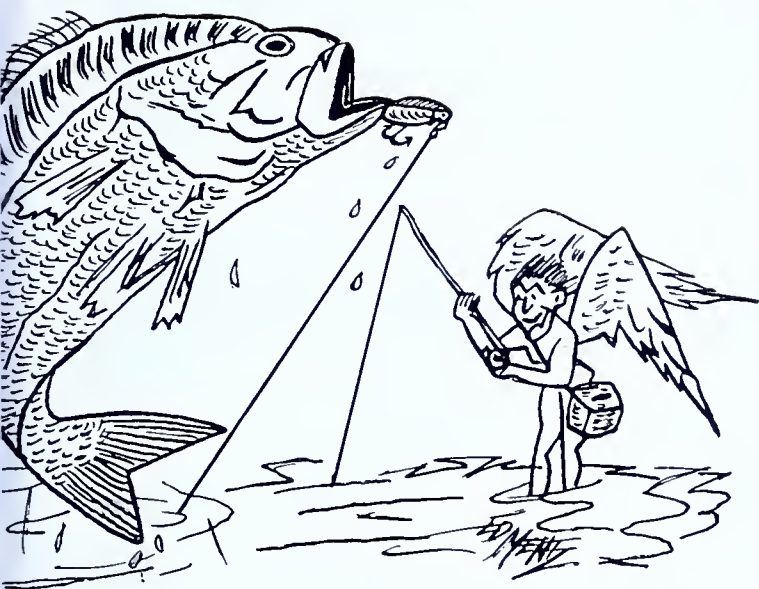
The poor fisherman, encouraged by the aura of comradery, brightened and asked, "You mean the time we were fishing the Young Woman's Creek in Pennsylvania?"

The reply was a tolerant nod in the affirmative, so the fisherman continued.



SIDGER was close to Kingdom Come.

"That happened on opening day several years ago. Sidger Starbridge and I were astream with the rising sun to welcome it in. In short order we were completely occupied in our ef-



BECOME acquainted with the small mouth creatures.

forts to entice the trout terrors of Young Woman's. In succession we offered the Royal Coachman, the Parmachene Belle, Black Gnat, Brown Hackle, the Silver Doctor and so on through our fly boxes until all had been wetted, but with no results.

"Sidger then resorted to other devices. It was the floating leaf strategy that turned the trick. One minute the leaf was moving placidly down the stream, then in a twinkling it disappeared in an eruption like that of Old Faithful, stirred of course, by a large trout which also got Sidger's hook. Sidger played his quarry which was a member of the *Salvelinus Fontialis* family, with all his ambidextrous skill. But his seemed a losing battle, and he was slowly drawn into a deep hole in the stream.

"Meanwhile, I moved out to a rocky ledge to see better. And it was slippery, too. I held my ground until he called for help. I took one step toward him and joined him in the hole in a way that I had not planned. In any event, I got to him at last, and it took the combined efforts of both of us to land that fighting fool of a trout. It weighed exactly 13 pounds.

"Sidger explains his leaf trick this way. A hook is inserted in a fat, juicy worm, which in turn is laid on a mullen leaf. The leaf is then set afloat in the current. When it and its cargo are over the right spot, the line is snubbed and the worm drubs into the water. Even the wisest trout spotting this natural presentation is fooled, with disastrous—to the trout, that is—results.

"Anyhow, after our battle with that lunger, we decided to rest a bit on the rock ledge be-

side the stream. After a while, I became aware of a buzzing sound. I looked around and there was Sidger totally and completely in the arms of Morpheus, but being quiet about it. Close beside him was the big trout, also quiet. But beside the trout was the source of the noise, the sight of which raised my hat right off my head. Hair standing up straight will do that, you know.

"A giant diamond back rattler was coiled and buzzing like a swarm of bees. It was close enough to Sidger to wack him by only half trying. All hope of saving Sidge apparently was gone.

"I started to draw my gun—Sidge and I always were armed on account of bears and such—but thought better of it. You see, if I moved I was sure it would trigger that snake.

"As has always been my want on trying occasions, I looked skyward beseeching Heaven for help. I noted that even Ole Sol showed a perturbed mein. Call it phenomena if you will, but I'm sure there was a frightful frown on his fiery face. Only Sidger knew not how close he was to kingdom come.

"The very atmosphere thereabouts was sticky and tense. Then things happened fast. That big trout which we presumed had joined its ancestors, went into action and made a lunge for the reptile. He latched onto that elongated creature just behind the head and started shaking it as a terrier belabors a rag. As it paused to get a better hold, the snake took advantage of the momentary release and slithered into a rock crevice from whence it must have come. Only then did Sidger awaken, and when he was told how his life was saved, he certainly was an appreciative man. He did the only decent thing left to do. He picked the trout up gently and returned it to its own element.

"The incident naturally left us shaken, but in due course we recovered and returned to our fishing. Though we did all right, none came as large as the one which was given a new lease on life for saving Sidger's. We finally called it a day and waded ashore. Without realizing it, we climbed out of the creek at the same spot where the trout and the rattler had their set-to. We were barely out of the stream when we heard that buzzing sound again, slightly louder this time. Spinning around to spot its source, we beheld a scene that would mummify almost anyone. We were surrounded by rattlesnakes, with the big one that visited us earlier apparently in charge. We only as-

sumed that after the snake recovered its composure he got a mad on and notified the rest of his clan which then ganged up to destroy us.

"This time there was no choice, we both drew our guns and eventually shot our way out of that mess of snakes."

In a reflective mood at the conclusion of the tale, St. Peter said, "I'm inclined to believe your fellow men have misjudged you. It is difficult for those who do not follow the pastime you did to discern the truth in such matters.

"I'm reminded of other experience of unsailable documentation on which doubt has been expressed by some of lesser understanding. Jonah and the whale, for instance. Then there



I BID you enter the gates with your queer paraphernalia.

is the beautiful legend recounted by Paul Gallico of St. Francis of Assisi and the carp he returned to the lake, which thereafter was at the water's edge to greet St. Francis when e'er he revisited those waters."

At this the fisherman took heart. And it showed. But St. Peter held up his hand and cautioned, "My personal feelings in your regard, however, must be secondary to the balance struck by this ancient instrument that has served me for eons of time."

At that St. Peter held aloft a balance scale, and said, "On one side are the totally truthful tales you have told. On the other are those of apocryphal nature you as an expert recounter have recited during your lifetime on the other side."

The scale started to move. First it seemed to waver. Then one side prevailed and the die was cast. But the fisherman knew not which tray of the scale held which of his proclivities.

But St. Peter knew. "Ah, ha!" he exclaimed, "it is apparent you are not destined for an everlasting Hadean atmosphere. So to you, my friend, I present this magnificent key to the great gates you see beneath yonder arch."

As the fisherman was about to move away, St. Peter again spoke up. He said, "But as a caution, brother fisherman, the scales were tried. You barely missed being condemned to a region where there is a river named Styx, where fish cannot exist. So be on your mettle, as this judgement is not irrevocable. Meanwhile, I bid you enter the gates with your paraphernalia and enjoy yourself on the River Jordan.

"Oh yes," he added, "last but not least, do become acquainted with the small mouth creatures of the *Micropterus Dolomieu* family. On your fly rod with bass bugs they may well cause you to wonder whether you too have not been taken in by the press agency in behalf of your trout."

This, accompanied by a knowing wink, a slight bow and a sweep of the open palm towards the gate, sent the fisherman on his way to the portal of paradise.



PENNSYLVANIA ANGLER

Looking Backwards From Today

by C. Robert Glover, Chief

Conservation Education
Pennsylvania Fish Commission

This is the second of a series of ANGLER articles dealing with the future of fishing in Pennsylvania. The series is presented to fully inform the fishermen of the Commonwealth and their legislators on all facets of the problem, the circumstances—past and present—that make it a problem, and to enable an eyes-open decision on the course that shall be taken for the future. In the November issue, two courses, in opposite directions, were presented. There are others that can be charted to head fishing in Pennsylvania somewhere between attainment of the finest as envisioned by the Fish Commission, and the present downhill slide. That those who hold in their hands the destiny of the sport in Pennsylvania and who will foot the bill will better understand the elements responsible for the present circumstance, a review of the immediate past—an era of vast economic changes—will constitute the major portion of this article.

Since the recommendation last summer by the Fish Commission for an increased license fee, three questions have been common among sportsmen's responses and comments. Most often asked during the early weeks following the recommendation was "What became of the 'reserve' in the Fish Fund?" Next has been, "Why

this sudden need for more money?" Third and less frequent has been, "Why, when the 1953 license increase was being discussed, were we told that an additional fifty cents would be adequate?"

There are answers to the first two questions. The third one, however, cannot be answered by the present Commission because of its totally new complement of commissioners and new persons in administrative posts. These men cannot know the grounds upon which their predecessors based the contention of adequacy. It does appear true, however, judging by the records now available and the physical condition of the properties and equipment inherited, that any such contention was erroneous.

Equally erroneous is the widespread belief that the Fish Commission has a sizeable "reserve" of funds, either in cash or bonds or both. The fact that the fifty cent increase was sought and granted in 1953 should dispel that belief. Had a reserve existed then, it would have been the strongest argument in the world to defer any increase—however small—until that alleged "reserve" had been put to work.

The origin of the "reserve" reports and beliefs is somewhat obscure. It may stem from several sources. It is true that during the era of World War II when Commission operations were slowed by war stringencies, some license revenues were invested in government bonds. These were cashed in long before the present Commission was appointed.

It is also true that at times in the course of a year, sizeable sums are deposited to the credit

of the Commission by the State Treasurer. The sizes of these balances vary from month to month, since Commission revenues and expenditures vary sharply with the seasons. The greatest revenues come in the spring and summer, the slimmiest in the winter months when few fishing licenses are sold. Thus, at some times in the year the bank balances may look quite large, but it must be remembered that a fairly large balance must be maintained in the banks to carry the Commission over the several lean revenue months.

The situation can be likened to the average household. On pay day and shortly thereafter, the family coffers are rather affluent. But the next pay day about two weeks away is a sobering thought and dictates spending accordingly. The only portion of any family income, family and fish commission alike, that can be consid-



ered reserve is that which is unspent, with all bills paid, when the next pay day rolls around.

Also, bank balances do not have a direct relationship to allowed expenditures by the Commission. At the start of each biennium a budget is made up, based upon estimated receipts. This budget is submitted to the Office of the Governor for approval. In the course of the two years covered, it may not be exceeded, unless the Office of the Governor determines that the cash in the bank exceeds the Commission's estimates enough to make safe an upward adjustment of the budget.

The budget upon which the Commission has operated since June 1, 1955, was prepared in the fall of 1954 and approved by the Governor's Office in January, 1955. The budget then fixed stands and is effective until May 31, 1957.

At the close of banking business on May 31, 1956, the cash balance to the credit of the Fish Commission was \$1,379,459.78. This compares with a bank balance of \$1,440,560.87 as of the close of business on May 31, 1955. This constituted the cash position of the Commission, but

NOT its budget position, which is an entirely different thing.

This also constituted the total cash, reserve or what have you of the Commission as of that date. That's all there is; there isn't any more. No bonds, no stocks; no sizeable sum that could be tapped at will or in time of need.

The answer to the second question—"Why the sudden clamor . . . ?" can be given in part by reference to the economic trend of the last ten years as documented by governmental agencies, both state and federal, charged with compiling statistics.

Here are facts that must be faced and accepted:

The average annual pay of a fish warden in Pennsylvania ten years ago was \$1,361. At that time there were 51 wardens on the force. As of August 1, 1956, the average salary among the warden force was \$4,444—an increase of 226%. This is the average of a force including 50 wardens, six regional warden supervisors and a chief.

The total annual salaries and wages paid to Commission hatchery personnel in 1946 was \$282,000. As of August 1, 1956, the total annual cost was \$688,000—an increase of 143%. By way of detail, the total payroll of the Fish Commission for the semi-monthly period ending May 31, 1947, exclusive of wardens, for 185 persons, was \$14,487, an average of approximately \$39 per week. As of May 31, 1956, the total payroll for that one-half month, again exclusive of the enforcement force, involving 293 persons was \$44,170, an average of approximately \$75 per week.

The increase in personnel, in part, as will be explained later, was brought about by increased production at the hatcheries. Also, in May of 1956, there was quite a force employed in the construction of Lake Somerset. No such activity was engaged in by the Commission back in 1947. Aside from this, however, it is to be noted that the average earning of persons employed by the Fish Commission has almost doubled.

The cost of meat for fish food was 3½ to 5 cents a pound in 1946. In 1956 it cost 11½ to 13½ cents a pound—increases ranging from 170% to 228%.

The cost of office supplies has increased as follows: plain stationery, from \$.50 to \$1.00 a ream—a 100% increase; envelopes, from \$.90 to \$2.50 for a box of 500—an increase of 177%.

The cost of the 2½-ton truck in 1946 was

\$1400. In mid-1956, the cost was \$2100—an increase of 50%.

The cost of construction has increased from an index of 310 in 1946 to 670 in 1955 (one year ago)—an increase of 116%.

The cost of materials for maintenance (construction and maintenance materials) has increased from an index of 125 in 1946 to 255 in 1955 (one year ago)—an increase of 104%.

The cost of rural real estate has increased from an index of 130 in 1946 to 222 in early 1956—an increase of 70%. Lake and river front lands have risen even more in cost.

By way of contrast to the above increases (and it's to be noted that those of greatest impact upon the Fish Commission have shown the greatest increases) the cost of the fishing license in 1946 was \$1.50. In 1956 it was \$2.50—an increase of only 67%.

Though the above statistics are illuminating and important factors when appraising the present position of the Fish Commission, it is not intended to leave the impression that its current income is only 67% greater than ten years ago. Actually in 1955 calendar year, almost 700,000 resident, non-resident and tourist licenses were purchased. In the calendar year of 1947, the last year of the \$1.50 license, there were approximately 600,000 license buyers. Each year's sale during that span showed an increase over the preceding year. During the same period however, the records show that a similar trend was effected in the state's major fish stocking program—that of trout. In 1947, a total of 2,075,522 adult brook, brown and rainbows were planted. In the last stocking year, the total reached 2,704,687.

Thus, it can be seen that an attempt was made to keep fish stocking abreast of the increased number of fishermen. It was done, however, by maintaining low scales of pay for Commission personnel until, recent months; at the expense of even minimum hatchery maintenance and equipment replacement, and with little provision for acquisition and development of access areas and streams and lake sites. Research, conservation education and other services expected of the Commission were also short-changed.

Further, in the way of statistics, but not on the Fish Commission side of the ledger, is the manner in which the wage scales of the folks who buy the fishing license have increased during the past ten years.

According to statistics compiled by government agencies and labor and management groups the average hourly earnings in all manufacturing of durable and non durable goods increased from \$1.22 in 1947 to \$2.05 in 1956. In the building trades, as set forth earlier, there was a 116% increase in labor costs or earnings. Similar advances are enjoyed in steel and coal. And all these advances are exclusive of the fringe benefits that came out of management-labor negotiations during the last decade.

With the above in mind, several of the outdoors writers have contended in their columns, and an increasing number of sportsmen seem to be in agreement, that the license fee suggested by the Fish Commission would represent no great hardship to any, except (1) folks who are now obliged to live on pensions—pensions built up with the dollars of earlier years which already are being stretched to meet today's costs, and (2) the heads of large families whose children are in the age bracket requiring a license, but still totally dependent.

The Commission had earlier recognized the problem that would be faced by those and possibly other groups, and remains open to any fee set-up that would enable their continued enjoyment of the sport without undue financial hardship. It was with them in mind, among other considerations, that the alternative "or revenue equivalent to a \$5.00 license" accom-



panied the Commission's recommendations and suggestions.

But the increased revenue must come first, which answers another suggested alternative to an increased license now. Unlike business or industry, which may float issues of stock for purposes of expansion and improvement, or governments—federal, state and local—which may float bond issues for such things as highways, water and sewerage systems, etc., etc., the Fish Commission cannot borrow. It must be reasonably certain that any money it budgets and plans to spend will be forthcoming through license sales during the period covered by the budget, and during which it will be spent.

Further, it should be understood now that even the initial benefits that will accrue through an increase will not be evidenced for a year or two at least after the increase is legislated. It is not like buying a new suit or hat or home or car. The facility must be acquired, built or developed, then nature allowed to take its course. The longer a start is delayed, the farther into the future will benefits be realized.

As big as a five dollar fishing license may seem, when broken down in terms of cost per day, it figures out at a bit over one and one third cents. It shrinks even further when compared with what a like amount will only buy in other fields.

In terms of baseball, it means a pair of box seats to one major league baseball game at Philadelphia or Pittsburgh.

In terms of football, it means two seats behind the goalposts for one game at University of Pennsylvania, at Penn State University, or University of Pittsburgh.

In terms of fishing tackle, it means four plugs, about a dozen dry flies or streamers or a fairly good single action reel.

In terms of shooting, it means less than two boxes of shells, less than two rounds on the trap range.

In terms of transportation, it means fifteen to eighteen gallons of gasoline.

In terms of entertainment, it means one seat to a Broadway show, no more than two movies for the average family.

In terms of golf, it means no more than three rounds on the average municipal course.

To the smoker, it's the equivalent of two carton of cigarettes or a box of cigars per year.

In terms of revenue for the Pennsylvania fish

management program, on a basis of 700,000 resident licenses, it means annual revenue of about \$3,500,000, and the initiation of the real fisheries program for Pennsylvania set forth in the November ANGLER.

At today's costs and trend, the Pennsylvania Fish Commission feels a \$5 license will provide for a ten year program. Anything appreciably less than such revenue could mean that within another few years it will be necessary to come back and ask for another adjustment. The sportsmen and the Legislature may then rightfully inquire, why we didn't ask for enough in the first place.

(The third and final of this series of articles on the Fish Commission's proposed program and fishing license increase will appear in the January ANGLER. It will, in part, contain a preliminary estimate of the manner in which the revenues based upon a five dollar license or equivalent revenues would be distributed among the various activities of the Commission.)



IN SERVICE TRAINING EXTENDED TO HATCHERY BRASS



The in-service training program initiated this year by the Fish Commission for its personnel extended to the superintendents and foremen of the Commission's hatcheries. Participating in other sessions were the district fish wardens and the regional warden supervisors and the regional fishery managers.

"School" for key personnel of the hatcheries was a two-day term held in the administration building at "Fisherman's Paradise," in late summer. "Instructors" and their "courses" were as follows: Arthur Bradford, "The Basic Requirements of Trout Diets and the Use of Pellets" and "Diseases of Fishes—Causes, Diagnosis, Control or Prevention;" Dr. James E. Wright, Jr., Geneticist, Pennsylvania State University, "The Principles of Genetics and How They are Applied to Trout at Benner Spring;" Keen Buss, "Demonstration of Results of Selective Breeding at Benner Spring;" Joseph Micco, "Budgets and Related Problems;" W. W. Britton, "Fish Distribution as Related to the Wardens."

In addition to the lectures, the sessions were marked by discussions and field trips to the Commission's stations at Bellefonte and Benner Spring and to the United States Fish and Wildlife Service Hatchery at Lamar.

Pictured above are those who attended. Kneeling (left to right), Shyrl Hood, foreman, Linesville; Glen Spencer, foreman, Pleasant Mount; Niels Sorenson, foreman, Corry; Cyril Regan, Real Estate Representative; Bernard Gill, superintendent, Tionesta; Metro Dorish, foreman, Huntsdale; Edwin Hahn, superintendent, Erie; George Magargel, superintendent, Reynoldsdale; James Biddle, foreman, Bellefonte; Merrill Lillie, superintendent, Corry and Union City; John Wopart, superintendent, Pleasant Mount. Standing (left to right), Paul O'Brien, management methods analyst; James May, Bellefonte; Joseph Micco, Comptroller; Gordon Trembley, Chief Aquatic Biologist; Philip Stark, foreman, Pleasant Mount; John Pratt, foreman, Union City; J. L. Zettle, superintendent, Linesville; Howard Fox, superintendent, Bellefonte; Jacob Knisely, Bellefonte; Frank Moerschbacher, Bellefonte; Dewey Sorenson, Superintendent of Hatcheries; Ray McCreary, foreman, Benner Spring; Joseph Critchfield, Commissioner; Dr. Albert S. Hazard, Asst. Executive Director; T. J. Dingle, superintendent, Huntsdale; W. W. Britton, Chief Law Enforcement Officer; Arthur Bradford, Pathologist; Keen Buss, Fishery Biologist; Robert Brown, foreman, Pleasant Gap.

Outdoors **W**riters **V**iews

— On a Fishing License Increase



FRANK STOUT in "Inside on Outdoors" in the *Scranton Times*, wrote—

"Fishing or Fancy?—There's an impression creeping around that when the Fish Commission proposed a \$5 license fee in 1958, it deliberately set its sights too high in order to emerge with at least a 50-cent or \$1 boost. That's not the case at all. The \$5 fee is what the Commission truly believes it needs to do a respectable job of improving Pennsylvania fishing. An increase of 50 cents or a dollar wouldn't scratch the surface of the program the Commission hopes to put across . . . One of the main arguments we've heard—and will continue to hear—is that sport fishing in Pennsylvania is very poor so therefore a \$5 license fee is too much. That's a negative argument if ever one was made. Probably one of the main reasons for poor fishing is the fact that nothing ever was done to streams and lakes to make them suitable for fish—and the reason such improvement never was made is obvious. There never was enough money to do the job. With new, year-round seasons in effect, a \$5 license fee becomes almost a bargain."

CHARLES H. NEHF, "Field Sports" editor in the *Allentown Morning Call* wrote—

It takes courage to face issues squarely, honestly and then come up with direct suggestions as to how a crisis can be met. This corner admires the State Fish Commission for their sincere frankness and agrees that their present financial situation is serious.

HALL HARRISON, in his column "Life Afield" in the *Pittsburgh Post-Gazette*, wrote—

. . . . The price of beer and whisky goes up; cigarettes, gasoline, guns, tackle, clothes, dogs, fees, etc., etc. We pay the raises as they occur and we keep on enjoying our hunting and fishing.

But just let the Fish Commission give an honest appraisal of what it needs to better fishing conditions for every angler in the state and they are accused of dropping a "block-buster."

The increase would be \$2.50 over the present fee. That is about 20 cents per month.

What a price to pay for better sport . . . 20 cents a month.

Can't you afford it?

Let's be honest!"

JOHNNY MOCK in "All Outdoors" in the *Pittsburgh Press*:

Take it easy! Before we have a state-wide epidemic of bursted blood vessels due to the recent announcement of the Fish Commission that it intends asking for an increase in the fishing license fee, perhaps it is better to do a bit of reasonable thinking.

After all, anyone can go off half-cocked and hunters and fishermen are noted for that, par-

ticularly when it concerns their favorite pastimes—sport afield and astream—and nobody knows it better than we.

We have done a bit of researching and the information obtained is rather interesting. From the library shelves we selected at random three sets of the "Pennsylvania Fish Law" booklets—1929, 1950 and the current issue. In the first we discovered the cost of the fishing license to be \$1.50; in 1950, \$2; in 1955, \$2.50 Inasmuch as this is the steel center of the world, we obtained a copy of the report giving background information in connection with the recent steel-labor negotiations. In an exhibit of the average hourly wages of the steel workers it revealed that the hourly rate in 1929, when the fishing license cost \$1.50, was \$0.674. Ten years later it had risen to \$0.838 and every year thereafter the report indicates an increase until it reached . . . (the present) \$2.47 an hour. At those rates, an eight-hour day in 1929 brought about \$7, whereas under the current rate it amounts to \$19.76.

As has been revealed, the Fish Commission intends to ask for a \$5 license fee, half of which already is being paid. The increase would mean one hour's pay or two hours' pay for an entire year's privilege of fishing.

Of course, not all workers obtained similar or proportionate increases like the steel workers, but the figures indicate in a general way what has been happening because of the ever rising cost of living No doubt, as the time approaches for the Legislature to convene—which has the final word on any change—there will be much discussion, but with it all, one cannot expect anything progressive when the income is 60 per cent over a preceding fee while the outgo is as much as 225 per cent.

If the sport is of no more value than to permit such a situation to exist, then why not toss the whole thing out the window and take up ping-pong or tiddle-dee-winks?

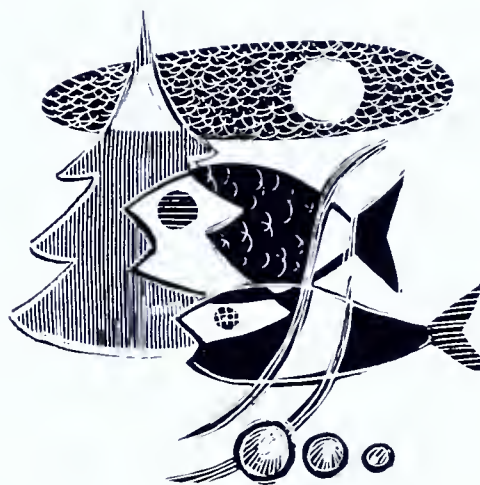
HARRIS G. BRETH, in "Sports Afield" in the *Pittsburgh Sun Telegraph*, writes—

. . . . While this program has many laudable features, it still contains no definite assurance to the angler that his fishing will be much better if any better in the near future. And to be honest about it, the present Fish Commission has no proven background of experience in spend-

ing vast sums of money in ways that have improved fishing in general.

This is no reflection on the men on the Commission, but the fact is six out of eight of them are brand new to the business of fish management, with less than two years experience.

It is true, too, that this new Fish Commission has come up with some extensive changes in the fishing picture. Many were popular. Most of these changes will cost no money My personal opinion on the proposed \$5 fishing fee is that it is ill-timed and ridiculous and I'm against it.



MORT WHITE, Editor of "Sportsman's Memo" in the *Allentown Evening Chronicle* says—

. . . . When one reads what the Commission says a \$2.50 increase will mean to it—and if you were unhappy with past facilities—you buy the full treatment It is the program of the present Commission and its administrative heads. We hired them, their knowledge, their ingenuity, their imagination and their ability. Messrs. Voigt and Hazzard are top-grade specialists in their chosen profession. We must believe that they are not going to learn their business at the expense of Pennsylvania fishermen. We believe they will give us the benefits of what they already have learned. Unless they have the money with which to produce, we may as well not have hired them. In fact, we have done them a disfavor. And lastly, we have the complete concurrence of the 8-man, non-paid Commission in their blueprint of the future."

JOE CARRICATO, in "Outdoors" in the
Harrisburg Patriot News, sums it up this
way—

. . . . The proposed \$5.00 fishing fee has taken up all the conversational slack created by poor fishing conditions. In our contacts with fishermen, even those who express willingness to pay, do so with reservations, such as: "if not a cent of the 100% increase is spent on trout," or "if it is earmarked for stream clearance and aquisition."

However, we believe sentiment is predominantly against such a whopping big increase in general and specifically against any increase which doesn't place the biggest share on trout fishermen

. . . . And once again we commend the Commission for planting this tomato at this time. It'll ripen and be put through a sieve before the legislators get back on the Hill. We believe the sportsmen's best interest will be served. A sneakier method would have had pressure groups working over individual lawmakers without giving the ordinary citizen a chance to be heard from.

JOHN ALDEN KNIGHT, Williamsport, Pa.,
syndicated by *Register & Tribune*
Syndicate, Des Moines, Iowa:

How many folks, we wonder, have gone to "Fish and Pay" ponds or regulated shooting grounds and there indulged themselves in their favorite outdoor pastimes? Also, how many have paid the bill at the end of the day, said bill being calculated according to the number of fish caught or the number of birds killed?

. . . We have done these things and not on a guest basis, either; at the close of the day we make out a check for the tab. Thus, we know from first-hand experience what fish and game actually are worth in cold cash.

For this very reason, it never fails to astonish us when we hear the furor and turmoil that is raised by the fishermen and hunters when such a thing as a moderate raise in the price of a license is suggested. The only bargain which in any way compares with the fishing or hunting license is the three-cent postage stamp.

Of course, not very many devotees of the outdoor sports figure the value of the daily bag in terms of dollars and cents. Should they do so, exclusive of the many intangibles incidental to those sports, then the monetary-minded certainly would dispose of fishing and hunting gear and patronize, exclusively, the fish markets and the butcher shops.

However, for the purpose in hand, consider the price of your license in terms of the value of the bag at going rates. One fair catch of trout more than pays for your fishing license. . . . From then on you are working on velvet. . . .

. . . Conservation agencies need money with which to operate. No longer do these agencies confine their activities to the mere stocking of fish and game in our waters, woods and fields. Fish and game management is a complex business as it is done today. It costs money to finance such things as research, land improvement and acquisition, lake and stream improvement, cover management and adequate law enforcement, just to name a few.

Another thing—public interest in the outdoor sports is increasing each year. . . . It takes a vast amount of territory and an unbelievable supply of fish and game to keep more than twenty-five million people happy in the outdoors.

Naturally, to provide adequate sport for that many people require money, plenty of money. Cut down on that money supply and, automatically, you cut down your own chances for sport each time you go out with rod or gun.

Our conservation commissions today are composed of specialists, men who are trained in their jobs. They don't indulge in the luxury of guesswork. They know what these things cost and their financial requests are not exorbitant.

If you want good fishing and shooting—and every sportsman does—go along with your commission and give those hard-working boys your support. Surely the equivalent of a week's supply of cigarettes with, maybe, a movie or two thrown in, won't make a serious dent in the annual budget.

FRANCIS KEMP in the "Sportsmen's Year"
in the *Huntingdon Daily News*:

"The majority of sportsmen are willing to pay for their sport. The question of an increase in fishing license is not that of price, but that of being sure of getting full value of your money. Outside of men who are retired or disabled a five dollar fee is not unreasonable providing that full value is received. If the Fish Commission can reduce pollution in our streams if it can provide additional fishing water, if it can acquire access points on our rivers and lakes, if it will give equal attention to warm water fishing and fishermen, if the average man can catch a fish once in a while, we believe that a \$5.00 license is not unreasonable.

KEEPER OF THE FISH

by Bettye Breaser

Our Pennsylvania minnows are fussy, I find, or perhaps we are oversollicitous about the flippers my husband tenderly keeps for his cold weather angling.



POSSESSION limit no more—no less!

I have no real complaint on his space-stealing woolen coat with bulging pockets, the rain-coats and jackets that jam the hall clothes closet. Nor are the fly-pinned hats too unsightly on the shelf above where female hats have long since been forced to leave to make way for his weather-bleached head coverings. An heirloom crock by the fireplace, purely a decorative piece, is now a hide-a-way for winter evening tinkering, for its ancient form contains hooks, lures, line, cement, bobbbers, sinkers and odds and ends of feathers and vari-colored thread.

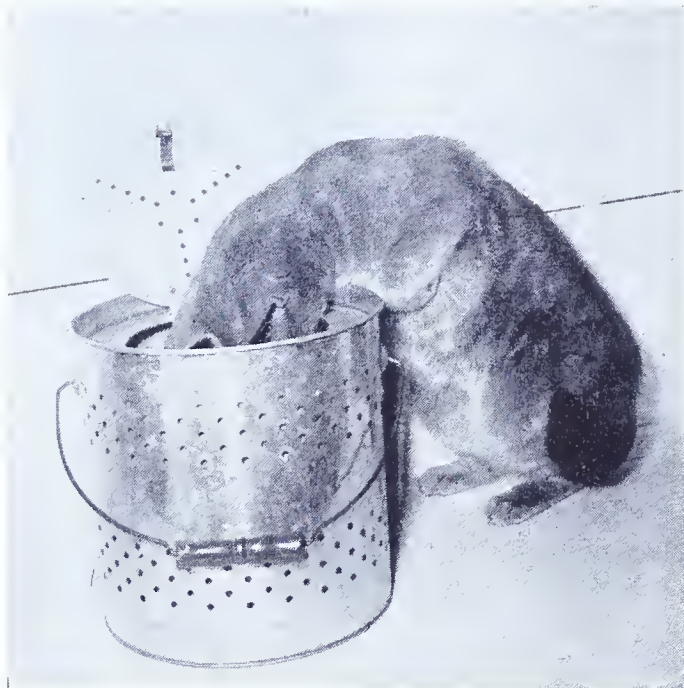
Needless to say, the convenient book shelves in this corner are well stocked with equipment catalogues and fishing magazines that have pushed novels and reference books to an upstairs bedroom.

Fortunately his long-legged hip boots hang in a coat hanger device in the garage with creels, rods, worm boxes, nets, a folding fishing chair, lunch kits and an array of tackle boxes. But, to make way for this storage the power mower invades my laundry room during winter months to vie with a few rakes, hoes and shovels to boot!

Come winter, however, we sleep with the fish! This, let me explain, is not every night, but come a sharp dip in the temperature it is my wifely duty to tote a slushing bait-bucket to the bedroom closet for safekeeping. Seems that bait-netting is a strenuous job in winter, and once they are caught they must live to serve their freshwater angling purpose.

For many moons now our enclosed front porch has been a "rest haven" for bait fish. Not that I object to a bait bucket, for it is not unsightly or noisy with its twenty-five or thirty inmates. A few sprinkles of oatmeal keep the critters happy and they swim in circular contentment for days on end.

Michael, our family cat, is self-appointed "keeper of the fish!" He's never been officially honored with this important job, it's just one of those cozy assignments that comes with being a spoiled and pampered feline. Being "left pawed" may be to some advantage to Michael, for he balances deftly between chair and bucket rim to agitate his flipping visitors. Sopping wet to his cat armpits he hasn't shown any ill effects from these frequent dunkings,



WHAT A chance someone is taking.

and spends hours licking the excess moisture from his "fish-hook" paw. He's not a good angler, for his catches are surprisingly few for his agile contortions. The minnows, wise little critters, swim teasingly in the bucket bottom and view their green-eyed enemy through a churning lense.

At times a few frisky red-fins have ventured over the bucket's edge, to be found exhausted by the cat at his return from some more important tour of duty.

I am sure the minnows are unaware of their distasteful presence in my clothes closet during a cold spell. The porch ceiling, no doubt is just as pleasant as the closet one, and the addition of a few dresses overhanging the bucket neither add or detract from their view. The

closet, on the north side of the house is shut off from the bedroom by a door. It's a taste of the arctic when I reach for a barb, but to the fish it must be the perfect life for they do not fear the skim of ice which might form on the porch if they were there. Only the broad furry face of Michael ever gives them concern, and that means "submerge," and quick before the left paw strikes, wherever they are!

We don't sleep with the worms, I am happy to say, for they curl and crawl in a box of earth in the garage. Regularly fed with coffee grounds and sprinkled from time to time with water, they do not crave closet care. Again my wifely duties compel me to make way for this fishing habit, for I bury my garbage in strategic spots in our garden plot during the summer. Come winter it is a simple trick to pour boiling water on the spot to force these deep crawlers earthward in a hurry for a day of freshwater fishing.

The equipment toted by my spouse for a day's trek is voluminous! I have gone on several occasions to marvel at his keen anticipation and joy, and to wonder how a 14 inch fish can be such a powerful opponent to a man when only a frail line divides the two in the tug-of-war.

As I explained before, live bait is valuable in winter. So, back we came—the fish, my husband and I. How many trips individual fish have made to the reservoir and back, I do not know. Perhaps some have kept a count by notching a seale or two, or maybe they're just content to record how many times they've escaped Michael's left-handed hook in their bait-bucket home!

Plug Takes Carp—or vice versa

Jacob C. Sheely of Chestnut Street near Fourth, in Mechanicsburg, had a very exciting experience recently while fishing on the Susquehanna River opposite New Cumberland.

Fishing for bass, Sheely was retrieving a Midge-Oreno plug when suddenly a large carp seized the lure and headed for deep water. Sheely reports a terrific battle with the fish which he finally landed, to find that the treble tail hooks were so deeply imbedded in the carp's mouth they had to be cut out. This indeed is an item of extreme interest, in that carp are bottom feeders and very seldom can be attracted to take an artificial plug.



Water Fatalities

By W. W. BRITTON

Chief Enforcement Officer

Pennsylvania Fish Commission

At one of the wildlife conferences, a chief warden made the statement that there were more fatal fishing accidents than hunting in his State. This caused me to wonder about Pennsylvania. There were no authentic records kept by the Fish Commission in this connection.

A letter went out to all fish wardens asking them to keep a record of their respective districts for a two year period. With the help of the many coroners, state police and others, the fish wardens were able to keep a close check on this matter.

In one year there were 24 fatal accidents while fishing. Some of these were associated with boats. There were eight drownings where the persons were not fishing, but were boating. The record of drownings while bathing was not all recorded, but in the course of getting the information on fishing, we learned of 21 such drownings.

Time and space would not permit recording all of the data by counties, but as an example; Lancaster county had the following for a five year period. Fishing, 4 deaths; Swimming, 11 deaths; Boating, 2; Suicides, 6. And two men drowned while hunting, making a total of 25 fatalities.

Getting back to the first year on record, you will find 24 plus 8 plus 21 gives a total of 53. In the same year there were 34 hunting fatalities as recorded by our sister department.

We can advance many reasons why there are more deaths caused by water than gunfire. One

death caused by either is too many.

We all look upon a firearm as a dangerous thing, and it is. But how many of us look upon water as being dangerous? One young man drowned in four inches of water while trout fishing. He slipped and fell, striking his head on a stone. This knocked him unconscious, and his face was in the water. Just enough water to drown him.

It is a funny thing, but the average individual always thinks it is the other fellow who is going to drown or get killed. His boat won't upset, but that other fellow's will. He never gets cramps while in the water, but the other fellow does. Yes, until his turn comes everything is Jake. I tell you in all seriousness, any person who takes chances of any kind while on or in the water is very very foolish.

So, Dad, please don't overload that boat, especially with children. If you must be reckless, fill the boat with stones and go alone. Don't take anyone out on the water unless you have a life preserver for each person on board and have them mighty handy or on the persons. Don't go out when the water is rough. Don't run your boat like a cowboy. Our cemeteries are full of men who were brave. You will also find many fools among the lot.

If you love life and the great outdoors, use your head and be here to enjoy it for many more years. "A fool and his money are soon parted," according to the old saying. A fool and his life are often parted as well.

Bait Fishes Propagation Booklet Available

Raising Bait Fishes, a revised circular on this subject based upon several additional years of pond investigation, is ready for public distribution, according to an announcement by John L. Farley, Director of the U. S. Fish and Wildlife Service.

The publication covers in detail the problems of establishing and operating a bait-fish hatchery, selection of fish for the hatchery and the life history and characteristics of each of 20 of the more important species of bait fishes.

The report goes into problems of pond fertilization

and artificial feeding, trapping and seining, transplanting and holding-tank losses, and control of weeds, diseases, and parasites. There is also discussion of the natural predators—such aquatic insects as the water tiger or back swimmer, and the larger predators which include birds, snakes, turtles, fish, muskrats and crayfish.

This publication, Circular 35, which is a revision of Circular 12 published in 1948, is a 121-page document with numerous illustrations. Circular 35, *Raising Bait Fishes*, is for sale by the Superintendent of Documents, United States Government Printing Office, Washington 25, D. C., price 45 cents.



FRESHWATER DRUM (*Aplodinatus grunniens*)

Sometimes called Sheepshead this fresh water representative of the croaker family is of limited importance in the commercial and sport fisheries of Lake Erie and rates only fair as food and game fish.

RANGE: The drum is found only in Lake Erie and in the Ohio River basin.

CHARACTERISTICS: Silvery grey on the back and sides and white beneath characterize this large-scaled species. A weight of several pounds is attained. The large ear bones, called "lucky stones" which may be dug out of the skull and the peculiar grunting noise when landed make this an interesting fish for the angler to catch.

HABITS: The drum is thought to spawn in May or June but little is known of its habits or requirements. It is primarily a fish of the larger lakes and rivers.

FOOD: The drum feeds mostly on snails and mussels and other large bottom animals which are crushed with the strong throat teeth of this fish.

LURES: Crayfish are said to be the best live bait for the fish. Plugs and spoons trolled deep are also productive.



MOONEYE (*Hiodon tergisus*)

This is another of the herring-like fishes which has little direct value to the angler since the flesh is dry and bony.

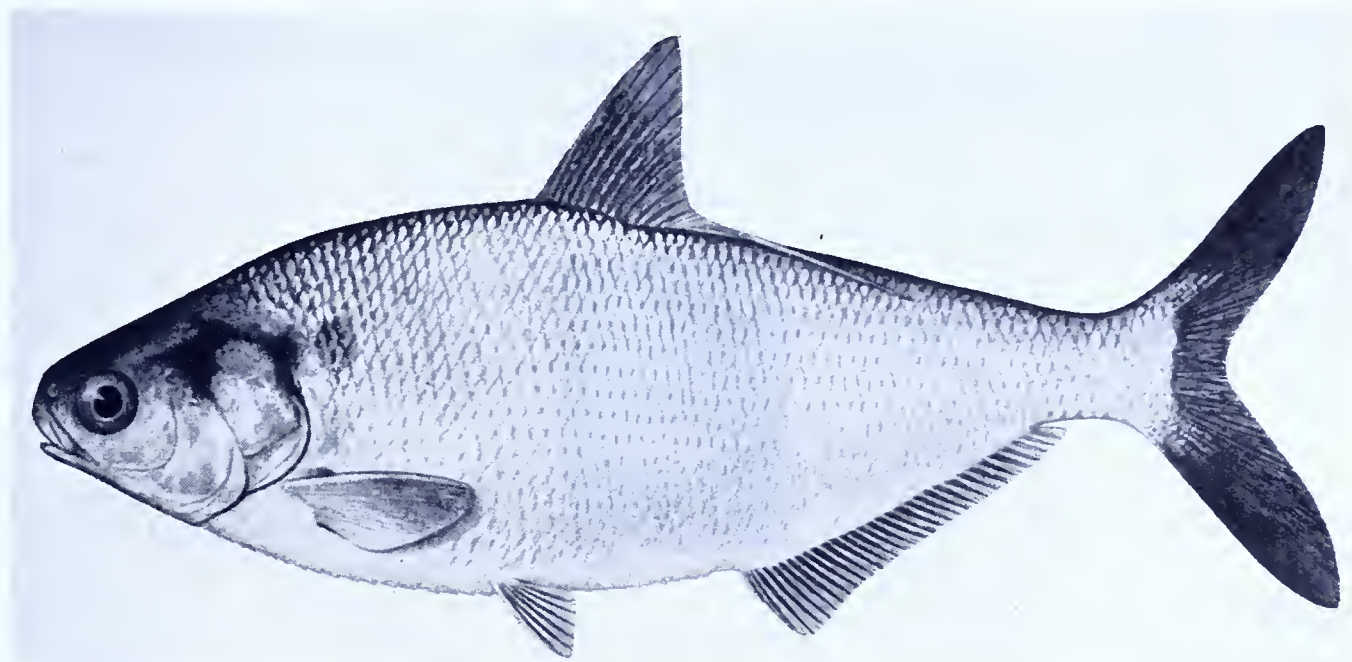
RANGE: The mooneye is found in the Ohio River basin in Allegheny County and in the Lake Erie basin in Erie County.

CHARACTERISTICS: A greenish-blue back and silvery sides and small mouth characterize this fish. It may reach a weight of two pounds.

HABITS: The spawning season is in early summer but not much is known about the procedure or other habits of this fish.

FOOD: Insects and small fish make up the diet of the mooneye.

LURES: Artificial flies and small spoons and spinners frequently take mooneye where they are abundant and the fish is said to put up a good fight.



GIZZARD SHAD (*Dorosoma cepedianum*)

This herring-like species earned its common name from the presence of a thickened expansion of the stomach resembling the gizzard of a fowl. The flesh is bony and not very tasty. In some waters it is considered of value as forage for game species; in others it is an undesirable competition.

RANGE: The gizzard shad is found in the lower Delaware River basin, in the Monongahela River and in Lake Erie.

CHARACTERISTICS: A deep body, small inferior mouth and the gizzard-like stomach identify this fish. The color is silvery and a dark shoulder spot is present in the young. A maximum length of 18 inches is reported but most fish do not exceed 12 inches.

HABITS: Usually travels in schools. It spawns in late spring and early summer. Heavy mortalities occur in late fall in Lake Erie and elsewhere apparently caused by sudden changes in water temperatures.

FOOD: Water fleas and other tiny animals and plants are strained out by means of the long gill rakers and eaten along with some small bottom dwelling animals.

LURES: Rarely, if ever would these fish be taken by hook and line. Because they are very delicate, gizzard shad are poor bait fish.

BLUE PIKEPERCH (*Stizostedion vitreum glaucum*).

This fish closely resembles the yellow pikeperch, better known as the walleye, which was pictured in the May issue of the PENNSYLVANIA ANGLER. The generally bluish color and the larger eye distinguish this fish from its larger relative. The blue pikeperch is found only in Lake Erie where it is an important commercial species. "Blue Pike" dinners are featured in many restaurants in Northwestern Pennsylvania. The habits of this fish are similar to those of the walleye.

SAUGER (*Stizostedion canadense*)

This is the smallest member of the pikeperch group rarely reaching two pounds in weight. It resembles the walleye in coloration and shape. Roundish spots on the first dorsal fin and the lack of the dark blotch on the posterior border of it distinguish this fish.

The sauger is found in several areas in the Ohio River basin and in Lake Erie. Its habits are similar to those of the walleye and they are often caught by anglers fishing close to the bottom for walleyes. Like other members of their group they are choice eating.

Juniata Float Trip

Report and Recommendations

by



Francis W. Kemp

(Editor's Note: Late last September, the Fish Commission conducted simultaneous float trips down portions of the Allegheny, the North Branch of the Susquehanna, the Delaware and the Juniata Rivers. The organization, the progress and the results of those trips were reported in the October and November ANGLERS. Part of that report was comprised of reprints of the columns penned by the outdoor writers among the complements of the floats. Only Francis W. Kemp, author of "The Sportsmen's Year" in the Huntingdon-Mt. Union Daily News, was not represented. Instead, he submitted the following thought provoking "report"—"The Kemp Plan," as it will be known—copies of which earlier have been placed into the hands of the Honorable George M. Leader, Governor of Pennsylvania; William Voigt, Jr., Executive Director of the Fish Commission; Logan J. Bennett, Executive Director of the Game Commission; Maurice K. Goddard, Secretary of Forests and Waters; Honorable Charles Mallery, State Senator; Dr. A. R. Grove, President of the Pennsylvania Outdoor Writers Association; Charles Nehf, Secretary of the Penna. Federation of Sportsmen's Clubs; and members of the Pennsylvania Fish Commission. The Kemp Plan is presented herewith in its entirety:)

The following reports and recommendations are submitted for your information and consideration. . . .

Full credit should be accorded the Commission for sponsoring the first step of what may prove to be the beginning of additional recreational facilities for thousands—now and in the years to come.

I accept full responsibility for the contents herein, however, I freely acknowledge that some of my recommendations have their origin in the free and easy discussions made possible by close contacts with other members of the trip.

Any credit that may accrue to this document should be shared by all participants in the float.

Special credit should be given Dr. A. R. Grove, President of the Penna. Outdoor Writers Assn.; John W. Grenoble, Pennsylvania Fish Commissioner and Richard Thorpe, Pennsylvania Department of Forests and Waters, for stimulating constructive conversations without which many of these suggestions would never have seen the light of day.

FISH AND GAME RESOURCES

A. FISH

1. Bass.

Bass were plentiful from Vineyard to Muskrat Springs. They also exist in sufficient numbers from Muskrat Springs to the Susquehanna River to more than justify the acquisition of access sites.

Abundant natural food is available and the river bed is in excellent condition for natural reproduction. If the pollution load of the river is not increased, the bass population should be self-perpetuating.

Adult bass, tagged and transplanted from Lake Erie have given an excellent percentage of return but aside from the public relations value of this stocking it would appear to have little value as the stream will maintain itself. It is suggested that this program be re-evaluated following the season of 1957.

2. Walleyes or Susquehanna Salmon.

These fish prefer deep rocky eddies and feed at night, early morning and evenings. It is significant that members of the float trip boated some of these fish while drifting over these areas during the daylight hours.

It may be possible to increase the numbers of walleyes in the Juniata River by the judicious planting of fry or fingerlings. This could be ascertained by the Regional Biologist.

3. Fallfish.

While not generally classified as game fish these fish do take plugs, spinners and flies. Fish exceeding two pounds in weight were taken by members of the float and they are present in sufficient numbers to afford fishermen many hours of recreation.

4. Others.

Rockbass were present in the riffles. Some carp were observed. Channel catfish are rumored to inhabit certain areas.

B. GAME

1. Feathers.

Blue wing teal were observed between Ryde and Lewistown. About 10 Brant were observed which were no doubt forced inland by the tropical disturbance "Flossie." Mallards and other ducks were sighted.

2. Protected Birds.

White egrets and herons were observed.

3. Fur.

The river bank contained many tracks of muskrat and raccoon.

Stream Obstructions and Recommendations

1. Eel Weirs or Dams.

These present the main obstruction to naviga-



Never Saw A Man Determined
To Get Back At A Fish!

tion up and down the Juniata. Approaching these dams from upstream it is impossible to determine the channel or passageway. It is impossible to use a motor to move upstream through these obstructions. Built from 50 to 100 years ago they have withstood the annual spring run off and several major floods without damage.

The problem here is relatively simple. Four hours work by two men should clear the center (point of the V) from each dam. The action of the river will keep it clean and the dam itself will guarantee a depth making it possible to motor upstream. Downstream navigation will be simplified as each dam may be passed by steering through the center.

Under no circumstances should these dams be removed from the river as they provide valuable cover for fish.

2. Rocky Ledges.

These do not present a serious problem from Ryde to Lewistown, nor are they too numerous from Mifflin to Muskrat Springs. However, from Buffalo Inn to Amity Hall they present major obstacles.

Perhaps the Penna. Dept. of Forests and Waters could solve this problem by using a little dynamite and/or a bulldozer. Cooperation between the Pennsylvania Fish Commission and the Dept. of Forests and Waters may make a molehill out of an apparent mountain.

3. Man Made.

One serious condition was observed at the Girl Scout Camp at Granville. A frame work of steel girders or boxes was located in the rapids in the river. This could easily rip a boat wide open. They could be removed by a bulldozer and cable and with scrap iron selling at a good price, perhaps some of the cost could be recovered.

Certain channels around railroad bridges located at Ryde and the two upstream from Lewistown are not clear. A little work could correct this condition.

PUBLIC ACCESS SITE AND FACILITIES

1. Need and Time.

The fact that, in a two day float trip from Vineyard to Muskrat Springs, we passed only seven fishermen despite the excellent bass fishing points up the fact that the average fisherman has no access to the river.

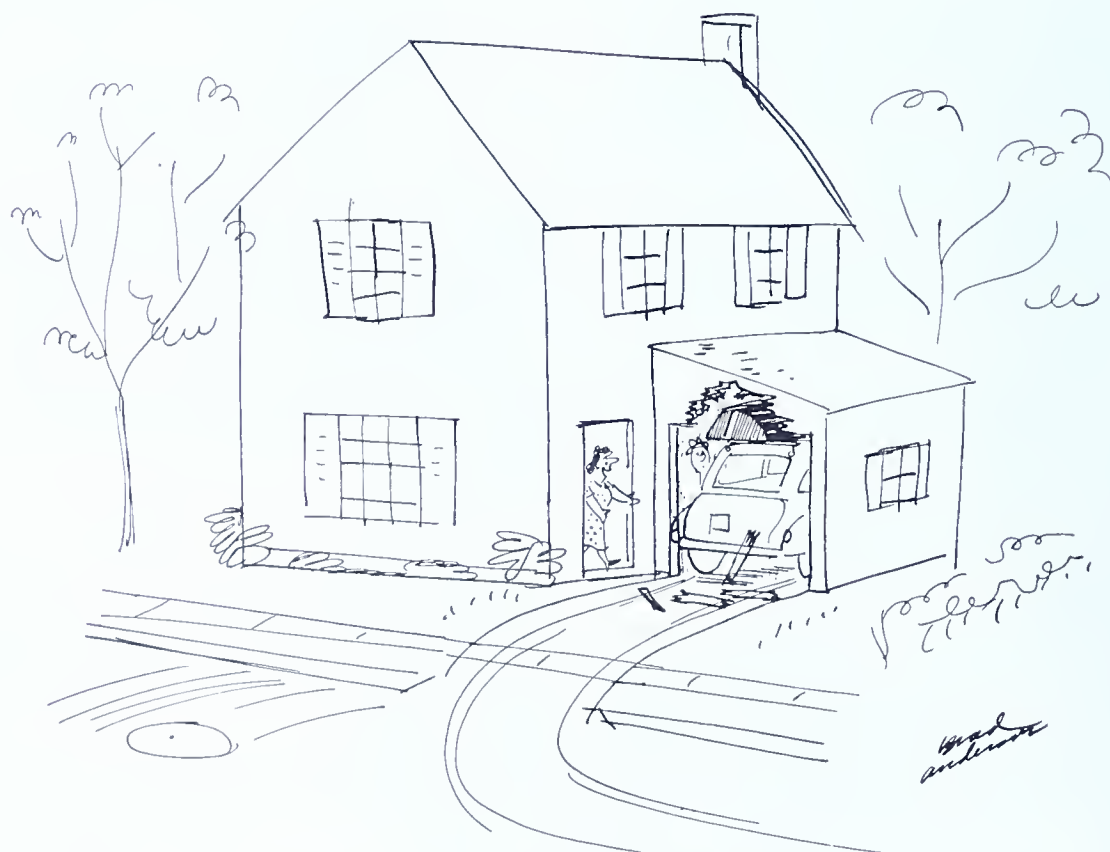
If an angler is fortunate enough to obtain permission to anchor a boat on private land obstacles in the river limit his area of operation. If he goes too far downstream he has no place to take his boat from the river.

Many anglers have trailers and aluminum boats but find them impossible to use on the Juniata due to the lack of access facilities. Additional fishermen would acquire boats and motors if they had a place to use them. The time to acquire access sites is now. Such areas could have been purchased for a song twenty years ago but are now moderately expensive. Ten years from now the opportunity may have passed forever. *The time to act is now!*

2. Types of Sites.

Class "A":

The basic need is access. These sites should



WELL HOW was the fishing? . . . Uh, uh . . . forget about the boat . . .

have simple facilities consisting of a launching ramp and parking space. One acre or less will suffice.

Class "B":

These should contain all the facilities of Class A plus a fireplace and two picnic tables. Simple sanitary facilities should be provided. A small section should be set aside for *overnite camping* for fishermen who are making *float trips only*. If drinking water does not exist on the property, directions should be posted where it may be obtained.

Class "C":

This type should be the showplace of the Commonwealth. Areas such as Muskrat Springs on the Petersheim Farm east of Mexico are suitable. It should contain:

1. Drinking water.
 2. Ample sanitary facilities.
 3. Two launching ramps plus a floating dock with gangplank to shore.
 4. Picnic facilities.
 5. Overnight camping with facilities (sites clearly marked in a good area) including parking beside tent sites.
 6. General parking area.
 7. Boat beaching area with provision made for tying boats to the shore.
3. Camping.

You will note these sites include overnight camping where possible. In recent years some officials have classified camping as a nuisance because it is popular with an increasing number of people. Too often their "cure" has been the complete elimination of all camp grounds. Their reasoning seems to be that because a great many people enjoy camping they should stop it. Constructive regulations should enable all those who wish to enjoy the magnificent scenery along our rivers to camp. The overnight feature should keep anyone from abusing this privilege.

Class C areas should be open to the general public as far as overnight camping is concerned. One criticism frequently met in other states regarding Pennsylvania is the lack of camping facilities near main highways. Inasmuch as Route 22 runs parallel to the Juniata River sites should be easily accessible to visitors from other states.

4. Number of Sites.

Sites will have to be located where practical on the river. There should be a site every five miles. It is recommended that a Class C site be placed every fifteen miles.

Financial Problems and Proposed Solutions

1. We could acquire some sites from time to time out of the proposed increase in fishing fees. This should be a last resort as it will take years to obtain the sites and develop them.

2. We could acquire and develop sites by mutual agreement between the Dept. of Forests and Waters, Penna. Fish Commission and the Penna. Game Commission. The three Commissions are working more closely together now than at any time in history. The royalty money accumulated by the Dept. of Forests and Waters and set aside for recreational developments could be used in this project.

It is impossible to obtain more value per dollar spent than money used to open up thousands of acres of water in our major rivers for recreation. It will pay rich dividends now and in the future when our children's children will enjoy the facilities we have provided.

CONSTRUCTION PROGRAM

1. To expedite this entire program it is recommended that a joint committee be formed composed of three men from each Commission—Fish, Game, and Forests and Waters.

2. Inasmuch as the Dept. of Forests and Waters has had wide experience in recreational areas it is suggested that they be permitted to design all facilities. Tentative plans on any site would be subject to the approval of the joint committee.

3. Sites should first be limited to boating waters on our rivers but provisions should be made in the future for sites on lakes and dams as well as suitable water upstream in the headwaters.

4. We should first acquire the sites—all of them if possible. Next the access facilities should be built in each site. Work can proceed on each site to completion from that point.

The only eventuality to guard against is building single Class C sites on each river which could result in heavy fishing pressure on a small section of stream and a condition resembling Shawnee in each area.

CONCLUSION

This report and recommendations have been sent to you because you are men of action who hold the future of water recreation in Pennsylvania in your hands.

The action taken on this and similar reports will chart our future for many years.

Your earnest consideration and cooperation will be appreciated by all citizens.



NEW THINGS *in* TACKLE *and* GEAR

Intended as a service to ANGLER readers wherein new items of fishing tackle and outdoors gear that come to the attention of the editor are introduced, with no intention of endorsement.

Address all inquiries to the respective manufacturers.



Line That Waterproofs Itself!

Cortland research has engineered a fine new nylon bait casting line. Appropriately enough, it's called "HEART-O-GOLD."

The revolutionary new HEART-O-GOLD features a special gold core which keeps the line constantly and perpetually waterproofed. **THIS LINE ACTUALLY RE-WATERPROOFS ITSELF FROM THE INSIDE!** A constant supply of "water-gard" formula is transmitted from the core to the surface of the line by the gold "feeder" thread braided throughout the line.

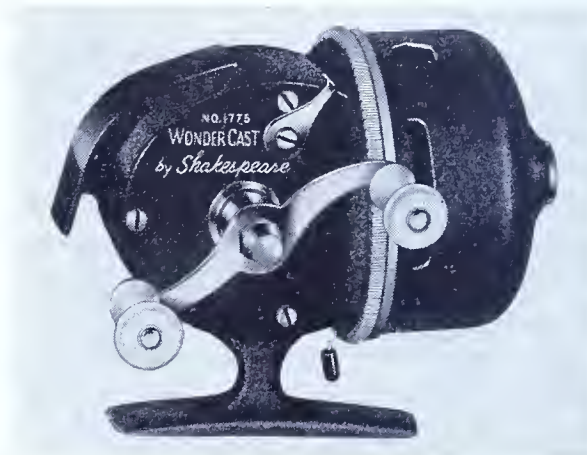
Here is a line that will never get waterlogged or lose its vitality. It rides the surface like a duck to signal strikes instantly; melts off the reel with effortless ease—a smaller, smoother, stronger line.

—Cortland Line Co., Cortland, N. Y.

And Now . . . A "Push-Button" Reel

The Shakespeare Company of Kalamazoo, Mich. have announced the production of the tackle firm's new Push-Button Wondercast.

One of the reel's outstanding features is a machined spool which is rigidly built and ef-



fects an exceptionally smooth adjustable drag when the outer cone housing which bears against it is turned in micrometer-like fashion. Other outstanding construction features include machine-cut gears of quality brass giving the reel a 4 to 1 retrieve ratio, easily operated non-reversing crank control and a heavily chromed double-gripped crank. The reel, of 3-unit take-down design, has an anodized aluminum alloy frame, "Push-Button" lever and an outer cone; these parts are enameled in tones of black.

—The Shakespeare Company,
Kalamazoo, Mich.



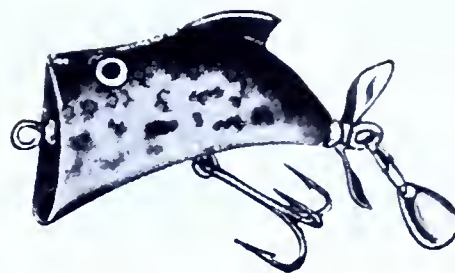
"Flopy"

Here is the latest in a succession of Garcia lures.

Convertible double-action Flopy Lures hop and dive with tantalizing live-action . . . perfect performance on the surface or submerged complete freedom from line twist.

A simple flick of the finger changes the striking live-action of these vivid lures from "surface hopper" to "diver."

—Charles Garcia & Co.,
268 4th Ave., New York 10, N. Y.



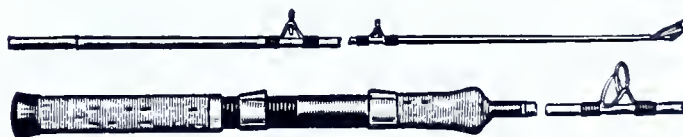
Bayou Boogie "Topper"; Super-Sonic Action

The *Topper* 'pops' on surface—on retrieve it belly rolls, swims, dives, darts, a few inches under water like a frantic minnow, tricking fish onto the hook every time.

—A. D. Mfg. Co., 1919 Chouteau Ave.,
St. Louis, Mo.

A New "Pal"

Those fishermen who prefer a fixed reel seat will find this rod ideal for all-around spinning. Located at a perfect balance point on the handle, this maroon anodized aluminum reel seat holds all reels like a vise; chrome mountings. Rod is light in weight and has a flowing action that casts lures from $\frac{1}{4}$ ounce to $\frac{5}{8}$ ounce with accuracy and distance. Colorfully wound in variegated silk, graduated cradle-type chrome guides, "diamond hard" tip-top. 12"



HEDDON No. 125 CAVALIER "PAL" TUBULAR GLASS SPINNING ROD

specie cork handle with Red Butt Cap. Cloth Bag. Lengths and Actions, 6 $\frac{1}{2}$ foot, Light action only; 7 foot, Light action only.

James Heddon's Sons, Dowagiac, Mich.



Heat Without Flame

Carry these "personal radiators" everywhere. You'll stay warm as toast in the coldest weather.

New feature! Now the Jon-e is super-easy to start. After properly filling the warmer with fluid, just ignite the built-in Wick at the side of the burner. Allow it to burn for about 30 seconds, then blow out the flame. The Jon-e will be heating perfectly. Lights cigarettes too!

—Aladdin Laboratories, 419 So. 6th St.,
Minneapolis 15, Minn.

AN UNWELCOME GUEST

There will be plenty of moonlight before a Baraga, Michigan man goes swimming again at night.

The man was taking a dip after dark at his summer cottage when he heard water being splashed nearby. Thinking it was his neighbor, he called out a friendly greeting.

He almost fainted when a big bear charged out of the water across the beach and into

NEW BOOKS on FISHING



HOOK, LINE AND SINKER

By RALPH SEAMAN, *The Telegraph Press, Harrisburg, Penna.*, 248 pages, illustrated by author. \$3.95.

Such deep interest in the out-of-doors had been manifested by Ralph Seaman and his experiences in hunting and fishing were so vast that he was selected to be the travelling secretary and lecturer of the Carling Conservation Club and given a major role in preparing articles for the *Carling Conservation Digest*.

HOOK, LINE AND SINKER is his fishing book, his story. Drawn from a store of rich experiences, starting as a boy accompanied by an idolized father and running the gamut of many successful trips to the major fishing grounds of the continent, outstanding incidents and achievements have been recorded.

Musky and tarpon, trout and bass, fresh water and the salt, with fly-rod or spinning equipment; these are for Ralph Seaman—the main attraction of his life. He is an expert who has the opportunity to enjoy the best.

Some of his accounts are hilarious, others serious. Aside from being great armchair adventure, interwoven throughout this volume are where-to-go and how-to-do-it clues.

FAVORITE FLIES AND THEIR HISTORIES

By MARY ORVIS MARBURY, *The Charles T. Branford Co.*, 551 Boylston St., Boston 16, Mass., 520 pages, 32 color plates: \$16.00.

This is a deluxe re-issue of a famous outdoor classic. Although it was written for generations of anglers years ago, it is as valuable and fascinating a volume today as it was when first compiled by the daughter of an early American fly-tier.

Although *Favorite Flies* is really a reference history of most known patterns of flies up until its original publication date, the greatest value of the book to this reviewer lies in the wealth of letters from fishermen all over the country. Their experiences and findings are remarkably similar to contemporary stories of fishing and they show how little, really, the sport has changed in half a century.

Dr. James Henshall, the Cincinnati doctor who gave up a lucrative practice one day to spend his life fishing, is one of the correspondents. His letter describes the bass waters he fished in Ohio and the favorite flies he used to fish them. It would be interesting to see how well his suggestions and the flies he originated would work on the same waters today.

Specifically, the book describes the histories of 291 separate flies. Each fly is also illustrated in extraordinary six-color prints; all color plates for this edition were made by European engravers. No instructions are given for tying these flies, but a wealth of information on the methods and materials of old-time tiers is woven completely through the work.

Six old engravings of common streamside insects deserve review mention because they typify the flavor of the entire book as well as they show the basis for the design of nearly all fishing flies. Because it was assembled so long ago, *Favorite Flies* reveals the character of fishing when every angler was a pioneer and when all the waters were pure and unpolluted. Nostalgia comes with nearly every paragraph.

SALAMANDERS AND OTHER WONDERS

By WILLY LEY—1955. *The Viking Press*. \$3.95.

For the person who is interested in the unusual and rare either in the world of plants, animals, or man, Willy Ley's latest book will come as a real pleasure. Written with the laymen in mind, this book deals with dozens of scientific marvels. Astonishing tales of man-eating trees in Madagascar and poisonous trees in Java will intrigue the botanist, while the amateur anthropologist will be delighted with data about the unknown foot-prints (whether man, ape, or near-man remains a mystery) found high in the isolated Himalayan peaks. Willy Ley describes many other varied and unusual scientific wonders—the giant turtles of the Galapagos, seemingly a remnant of the long-gone Age of Reptiles; the olm, a small cave salamander that set off a world-wide controversy; the discovery of the bones of *Archyoptyryx*, first in the great dynasty of birds.



West Virginia Follows Suit

Quick on the heels of the published results of the Pennsylvania Fish Commission's Boat-Float expedition last September 28, 29, 30, comes a report from the state of West Virginia. The conservation commission of our sister state lost no time in conducting a similar float according to an article published in the *Gazette's* magazine section of West Virginia's leading newspaper.

Writing in the *Gazette's* magazine (date line Oct. 28, 1956)—George Lawless, recounted—

"The Conservation Commission arranged a floating "safari" of outdoor writers and sportsmen . . . The float "safari" assembled at the newly-developed Bluestone State Park, where the old-timers swore the "big 'uns are biting."

The safari guides were: Carl Sullivan, assistant chief of the Conservation Commission's fish management division; Charlie Bare and Dick Gilpin, Summers and Mercer County conservation officers; Ben Harman, of Princeton and Herman Mathias, of Madison.

We pushed our floatboats into the water below Wylie Falls and swirled downriver toward our first campsite, five miles to the north. We camped overnight at Shanklins Ferry, then pushed off to the second campsite at the mouth of Indian Creek, which is about 12 miles south-east of Hinton. Fishing was better on the second day.

The float trip was designed by the West Virginia Conservation Commission to survey and publicize its recreation potential. The outdoor writers included in the floating party were: Bill Burton, *Baltimore Sun*, Mark Sullivan, *Times-Life, Inc.*, and Aubrey Graves, *Washington Post*.

Heaven Knows When or Where

This is the story of a Wyoming fish that boarded an ill-fated aircraft bound for California:

In the fall of 1954, a Wyoming Game and Fish Department employee tagged a seven to nine-inch rainbow trout and planted it in the Big Laramie River. On the metal tag was inscribed the following information: "J7026 notify Wyo. G&F."

Sometime afterward, no one knows when, an American Merganser swallowed the tag and presumably the fish.

The merganser flew to New Mexico. There the merganser was tagged. Then it flew to California.

In California, the merganser was killed and wound up in the hands of the State's Fish and Game Department which is conducting a study on the food habits of mergansers.

In the bird's stomach was found the tag, J7026.

—Wyoming Game and Fish
Commission.

A Funny Lot—These Sportsmen

Wildlife conservationists are often accused of standing in the way of progress, of being negative, of having no program of their own, but continually attempting to gain their point by fighting the programs of other groups. A hair-shirt-outfit of a sort, who constantly bicker among themselves, but who oftentimes surprise their opponents by their determined and united stand before some legislative committee.

They mystify the politicians because they cannot be identified by party, color or creed. When the call to arms is of sufficient significance to capture their collective imagination, like quicksilver they gravitate to a common purpose. They have shown their teeth many times with some success, as in the case of the Echo Park dam, the Wichita Mountains National Wildlife Refuge, a former grazing bill, the Federal Water Pollution Control Act and the reorganization of the Fish and Wildlife Service. But when the hazard is over they return to their daily tasks, a mysterious and rather indefinable force.

—From *National Wildlife Federation*

Wardens Serve As Youth Counselors

Oftentimes we have a tendency to minimize the work of our state fish wardens. We only think of the warden in terms of law enforcement, the man behind the badge who vigilantly protects our fish resources from those who willfully break our laws. And, it is true that the apprehension of violators is an integral segment of the successful management of those resources.

But, in more recent years the state fish warden has taken on a new responsibility—that of public relations. For as surely as law need be enforced, the public needs to be informed about the policies and activities of its conservation department. An informed public erases suspicion and contempt when a cloak of secrecy prevails. Each warden is the Department's diplomat to a community. If he is aggressive he will fit in the scope of community living. He will be interested in its civic affairs—its municipal problems, its schools, churches and service clubs. He will integrate with its people, share in their sweat and toil, in their joys and their heartaches. He will become one of them. He will engender their trust and confidence in him, and the Department will profit by virtue of its choice in selecting the right man for the job.

A major part of community living is the amount of happiness that adults get out of watching youngsters grow. It is not uncommon knowledge that the instruction they receive at an early age molds their future. It is significant that state fish wardens are giving valuable instruction and adult-companionship to boys and girls that is virtually priceless to parents or guardians.

—*The Editor*

South Dakota Conservation Digest

Man Causes Most Forest Fires

Man-caused forest fires occurred at the rate of 380 a day during 1955, according to the United States Wildlife Management Institute. A compilation of fire reports on private, State, and Federal lands shows that about 92 per cent of all the fires recorded in the nation resulted from human activities. The remaining forest fires were caused by lightning. Actually the total number of fires during 1955 was a post-war low.

The 1955 figures reveal that 145,180 forest

fires, of which 134,800 were caused by man, burned about 8,068,600 acres. In 1954, 176,891 forest fires, with 166,278 caused by man, burned 8,832,963 acres. The number of forest fires by major causes in 1955 were attributed, in order, to arsonists, debris burners, smokers, campers, lumbermen, railroads, miscellaneous man caused, and lightning.

The U. S. Forest Service reports that people still deliberately set fires for their own reason, good or bad. They set 25,773 forest fires on lands receiving organized protection, which are the only lands on which figures are available.

NATIONAL WILDLIFE FEDERATION FELLOWSHIPS 1957-1958

The National Wildlife Federation will award several fellowships and scholarships to graduate or qualified students working in the field of conservation and conservation education. Undergraduate scholarships are usually for \$500. Graduate fellowships range from \$1000-\$1500. In 1957-58 special recognition will be made to those engaged in problems dealing with POLLUTION OF WATER, SOIL OR AIR. Students working in other fields of conservation or conservation education are encouraged to define their problems and present their applications with supporting sponsorships.

Application forms must be submitted before Dec. 31, 1956. For additional information and application forms see your Dean or write:

The National Wildlife Federation, Inc., 232 Carroll Street, N. W., Takoma Park, Washington 12, D. C.

GASOLINE ALLEYS OR SCENIC HIGHWAYS?

The Western Pennsylvania Conservancy has complete confidence in the ability of engineers and contractors to construct the new highways made possible by the Federal Highway Bill. It would like to feel equally confident that the sides of the new roads will be protected so zealously that they will delight the eye of the hastening driver. When new roads are abuilding, embankments can be designed to serve as small dams to conserve water. Preserving fringing forests and landscaping bare roadsides should be provided for in all new road construction.

Pennsylvania Federation of Sportsmen's Clubs Adopt Resolutions

Action Of Sports Conclave Will Be On The Agenda For The Next Meeting Of The Pennsylvania Fish Commission

The following resolutions affecting fishing in Pennsylvania were adopted at the 1956 Fall meeting held in Harrisburg, September 21-23.

Fish

1. *S. C. Whereas:* The so-called new method of secrecy in the stocking of fish is not new, but the old method used which was discarded upon the insistence of the sportsmen because of its many failings and abuses, and

Whereas: It is impossible for a truck driver, warden, and possibly a deputy warden to properly distribute fish in most streams of our state, and

Whereas: the stocking of fish was one of the activities of our clubs looked forward to by our members and this vicinity is now lost and the good obtained from this method of thorough distribution of the fish in a stocking program is also lost, and

Whereas: the members of the Cambria County Federation of Sportsmen's Club feel that there are many undesirable possibilities under the secret method of stocking such as, 1. lack of distribution, 2. leaks of information giving unfair advantage to a few people, 3. advantage to people living on our streams who see the stocking taking place. They and their friends can reap the fish since we are returning to the old method of hole stocking, 4. the possibility of politics and political pressure entering into the stocking of our fish, 5. the sportsmen may never know if any or how many fish were stocked under this setup (previously we were there and now we must take someone's word for it)

Therefore Be it Resolved: That the Cambria County Fed. beseeches the SC Div. of PFSC to go on record as opposed to this move on the part of the Fish Commission.

2. *Directors. Whereas:* The Directors of the PFSC suggested the following resolution on the

projected increase of the fishing license:

"A general increase of the fishing license of one dollar and fifty cents (\$1.50) and a one dollar (\$1.00) trout stamp—with no earmarking of funds," and

Whereas: The panel session, after due consideration, officially recommended deferment of action on the resolution until the March 1957 convention.

Therefore Be It Resolved: That the main convention concur on the action of the panel and endorse the intent of their resolution by discussing this matter on the local level and come prepared to the March, 1957, convention of the PFSC to act on the above suggestions.

Therefore Be It Resolved: that the Beaver County Sportsmen's League request the Pennsylvania Federation of Sportsmen's Clubs to use its influence in having the Game Commission inaugurate an extensive control cutting program on the state game lands located in the big game hunting areas for the purpose of providing additional feed for our deer herd during the winter months.

4. *S. E. Therefore Be It Resolved:* That the PFSC reaffirm its stand that antlerless deer permits be issued from the Department of Revenue at Harrisburg, with only one permit to be issued to a hunter—and on a first come, first served basis—in accordance with resolution No. 4 of the March, 1954 convention, resolution No. 1 of the September, 1954 convention and resolution No. 14 of the March, 1956 convention.

Pollution

6. *S. C. Whereas:* Thousands of fish are being killed and miles of Pa. streams are being polluted each year, creating a health hazard for citizens and lowering the recreation standards in Pa. and

Whereas: the Pa. Sanitary Water Board, by their own admission lack sufficient investigating

and patrolling officers to properly police the streams and

Whereas, a fish warden is handicapped by the jurisdiction of the sanitary water board members, in prosecution of violations of the hard won clean streams act, now;

Therefore Be It Resolved: That qualified personnel of the Pa. Fish Commission be given joint-powers-of-arrest, with members of the Sanitary Water Board, in the Prosecution of industrial and private pollution of Pennsylvania Waters.

Legislation

7. *N. E. Whereas*: The Department of Revenue, Bureau of Motor Vehicles has increased the License fee on the small boat Trailers from \$5.00 a year to \$10.00 a year, and

Whereas: The small Boat Trailers are built for one purpose only, to move a boat from one place to another, and cannot be used for any other purpose, and

Whereas: It is used just a few times a year, and the fee for the Boat Trailer License is the same as for the average automobile that is used every day.

Therefore Be It Resolved: That the legislative committee of the Pa. Federation of Sportsmen's Clubs, go before the next session of Legislature and have a bill passed to have the Small Boat Trailers Classified in a group, different from the Commercial Trailers.

And Further Be It Resolved: That the fee charged for the License of a Boat Trailer at no time shall be more than \$5.00 a year.

8. *N. W. Whereas*: Sportsmen of Pennsylvania believe, in the main, that the interests of Fish and Game Management belongs in the hands of the Commissions set up for that purpose.

Therefore Be It Resolved: That the Pennsylvania Federation of Sportsmen's Clubs petition the Administration as well as both Houses of the State Legislature to sponsor and adopt a resolution placing confidence in the Fish and Game Commissions in handling their own affairs.

And, Be It Further Resolved: That the resolution call for a hands-off policy regarding individually suggested legislative changes in fish and game regulations; referring such suggested changes to the interested commissions.

10. *Directors—Whereas*: The program of the national essay contest has been discontinued by the National Wildlife Federation, and

Whereas: The PFSC, through its Education Committee, feels that the youth of Pennsylvania have been greatly stimulated by this school activity.

Therefore Be it Resolved: That the essay contest be continued by the PFSC using subjects selected by the Education Committee of this organization and offering prizes within the framework of their regular operating budget.

*A Litterbug is a guy who leaves only the marks of a heel
in the footprints of the sands of time.*



**TIDY TIM SAYS:
“Don’t Litter!”
KEEP AMERICA
BEAUTIFUL**

Valley Forge Boy Scout Jamboree

By PAUL M. FELTON

Conservation agencies from Pennsylvania, surrounding States and a wide variety of Federal Services are actively cooperating to bring a bang-up conservation exhibit to the 53,000 Boy Scouts expected to hold their 1957 Jamboree at Valley Forge next July.

Conservation education as a tool to the wise use of our natural resources is becoming more selective. There is a decided departure from attempting "shotgun pattern" education of everybody. In its place emphasis is directed to singling out groups of people with similar interests and aiming the conservation message at this group alone wrapped up in language the group members understand. What better category is there to approach than 53,000 hand-picked Boy Scouts with an interest in the outdoors stirring in each one's mind. Then figure they're all going to be camping in one spot for a week! It is a natural setup, for a cracker-jack exhibit on Conservation. The National Boy Scout Headquarters recognized this opportunity and under the able leadership of Conservation Director, Ted Petit, gathered together a group of prominent conservationists from the fields of Fish, Game, Forestry, Soil & Water Conservation.

Conferences held at Valley Forge produced a cooperative unit made up of men not only from our own Pennsylvania Agencies but also from New York, New Jersey, U. S. Forest Service, U. S. Fish and Wildlife, Soil Conservation Service and National Wildlife Council.

The job of the committee is to set up an exhibit that is, not only attractive to boys and easy to understand visually but also to make it "workable" by the 53,000 active boys. For instance, every boy will have the chance to work a forest lookout's fire finder. The exhibit will plug the wise use of our resources in three different locations in Valley Forge due to the impossible task of getting 53,000 boys through one exhibit in one week. It really is a triple job.

The theme of the exhibit will be "Conservation Works Magic" and the slight-of-hand ap-

proach should appeal to Scouts and Scouters especially in the age class 11 to 70 years.

Fifty-three thousand (53,000) boys? Not on your life! Instead 53,000 future caretakers of our timber, fish, game, soil and water. They're going to be running this country soon and we're betting that these future citizens who will have to take care of our heritage will be a lot better informed on the wise use of our resources after "working" through the Valley Forge Conserva-



Photos illustrate Cannon placements on historic Valley Forge Battleground.

tion Exhibits in 1957.

One thing more, A project of these proportions points out something new in the Keystone State: It indicates a new trend in closely knit cooperation of our Pennsylvania Government Agencies, to see our Fish Commission's Bill Voigt working hand in hand with the Penna. Game Commission, The Penna. Dept. of Forests and Waters and the Soil Conservation leaders to bring a unified, complete picture of conservation to such an important group as a national assemblage of Scouts.

It is this kind of cooperation that must pull Pennsylvania to top billing in the World of Conservation.



New York Has New Conservation Commissioner

Governor Averill Harriman of New York has appointed Sharon Mauhs, a lawyer and farmer, former legislator and former assistant state attorney general, to head the Conservation Department of New York State. He succeeds Louis A. Wehle of Rochester, who resigned.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946 (Title 39, United States Code, Section 233) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

Pennsylvania Angler published Monthly
(Insert exact title of publication) (State exact frequency of issue)
at Harrisburg, Pennsylvania for October, 1956.
(Name of post office and State where publication has second-class entry)

1. The names and addresses of the publisher, editor, managing editor, and business managers are:

Name	Address
Publisher <u>Pennsylvania Fish Commission</u>	<u>Harrisburg, Pennsylvania</u>
Editor <u>J. Allen Barrett</u>	<u>Harrisburg, Pennsylvania</u>
Managing editor	
Business manager	

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

Name	Address
<u>Commonwealth of Pennsylvania</u>	<u>South Office Building</u>
<u>Fish Commission</u>	<u>Harrisburg, Pennsylvania</u>

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

Name	Address
<u>None</u>	

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.)

[Signature]
(Signature of editor, publisher, business manager, or owner)

Sworn to and subscribed before me this twelfth day of September, 1956

[SEAL]

[Signature]
(My commission expires Feb. 1, 1957)

Do Fish Have a Sense of Smell

by Larry T. MacWelch

The United States Government's Bureau of Fisheries has published an extraordinary pamphlet entitled "The Sense of Smell in Fishes." This pamphlet tells about experiments conducted with fish. The following two paragraphs are direct quotes:

"As a preliminary step in testing the catfishes, five normal fishes were placed in a large aquarium overnight that they might become accustomed to their surroundings. In this aquarium were then hung two wads of cheesecloth, in one of which was concealed some minced earthworm. The fishes, which were swimming about near these wads, were then watched for an hour and their reactions in reference to the wads were recorded. The wad without worms was passed by the fishes many times and did not excite any noticeable reaction. The wad containing the worms was seized and tugged at eleven times in the course of the hour, notwithstanding the fact that from time to time this and the other wad were interchanged in position. Not only did the fishes thus openly seize this wad, but when in its neighborhood they would often turn sharply as though seeking something without success, a form of reaction seldom observed near the wad which contained no worms. The other sets, of five normal fishes each, were tested in this manner and with similar results. It was perfectly clear to anyone watching these reactions that the fishes sensed the difference between the wad of cloth with worms and that without worms."

* * * *

"Four dogfish which had eaten readily when in the normal condition were removed from the pool and their nostrils stuffed with cotton wool; in two of the cases the cotton was covered with vaseline. When returned to the pool such fish rush about violently for a few minutes, as do all dogfish which have been out of water. They soon, however, quiet down and swim about the pool as do the normal fish. Twenty-four hours later three crabs were placed, an hour apart, in the pool, which now contained, in addition, four normal fish. All were found, in the usual manner and length of time, by the fish without cotton in the nostrils. At no time did any of the individuals with the nostrils filled show the slightest interest in the crabs, although such often swam within a few inches of the food. Moreover, these fish made no attempt to follow those which had secured one of the

crabs, although the food was occasionally dropped. It was often observed that two dogfish, one normal and the other with the nostrils filled, would be swimming along the wall side by side when they approached the vicinity of the crab; the normal fish would then make the usual sudden turn to search for food, while the individual with the cotton continued on its way with no change in the lazy swimming movement."

The research workers who conducted these experiments concluded that the fish they tested "use the olfactory organs to scent food much as land animals do; these organs are true organs of smell, i.e., distance receptors for the chemical sense."

In addition, the United States Government's Fish and Wildlife Service has published "Leaflet 28" on fish baits. One of the baits listed in the leaflet is a liquid bait made from an oil derived from decayed minnows or small gizzard shad. It is called "Stink" bait. Still another pamphlet has been published by the Government entitled "Structure and Senses of Fish." The following two items are quoted from the latter pamphlet:

(1) "In some fishes the sense of smell is extremely acute."

(2) "There is good evidence that fish are relatively nearsighted."

Put these two facts together and it is clear that if fish are nearsighted, the sense of smell is the all important sense used by fish for the location of food.

Based upon this scientific information, several companies have gone into the manufacture and sale of strong odorants to attract fish. One of the pioneers in this field is the Beauty-Bait Company, of Alexandria, Virginia. Their liquid fish bait is applied to whatever bait the fisherman happens to be using in fresh water or salt water. The price is \$1 per bottle.

In the meantime, the study of the sense of smell in fish goes forward. Experiments on scent are now being conducted at Rutgers University under the direction of Dr. James R. Westman, Chairman of the Department of Wildlife Conservation and Management.

There is no longer any doubt. Fish have a highly developed sense of smell. Aside from technical and scientific information, perhaps the best proof is in the actual fishing. The use of a strong-smelling liquid fish bait has helped many fishermen to catch more and larger fish.

This new wrinkle may turn out to be as much a part of fishing as the rod and reel. Why not try it?

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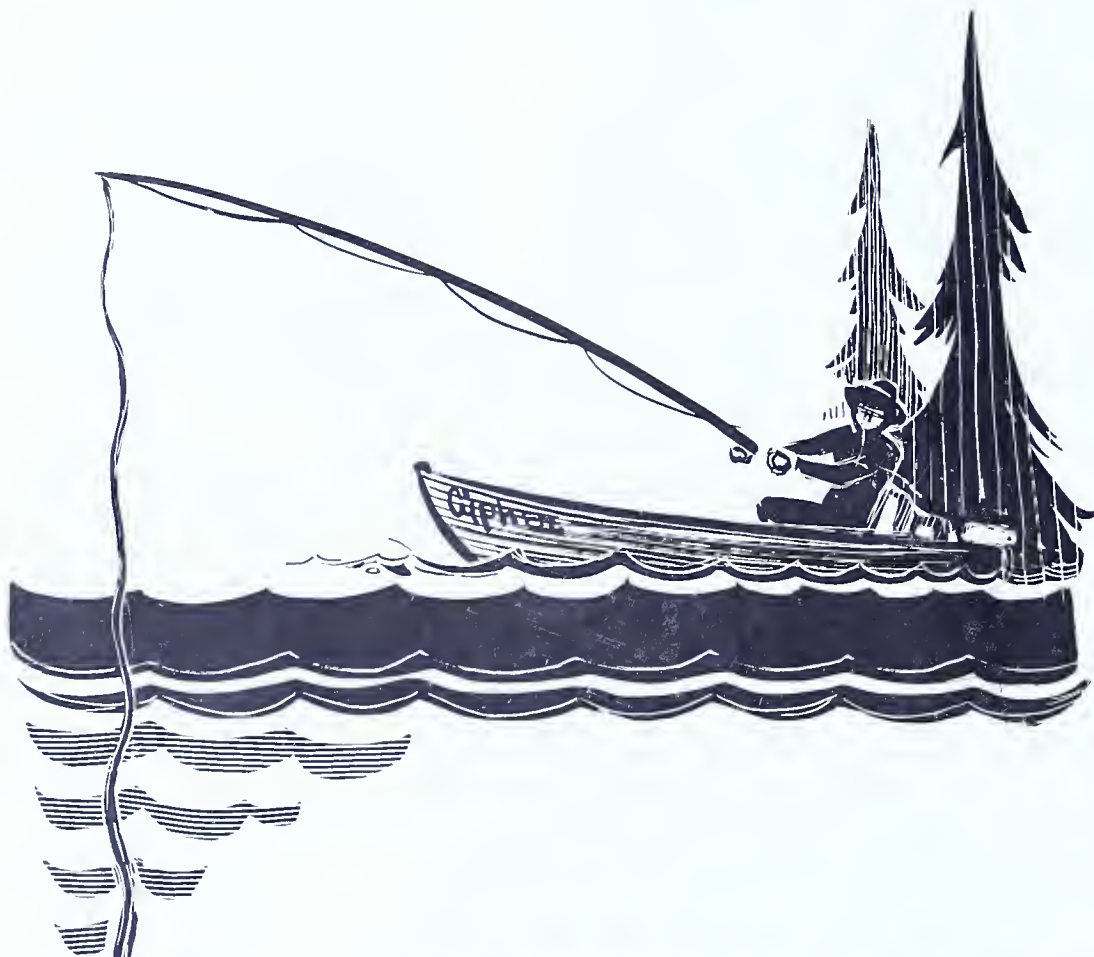
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